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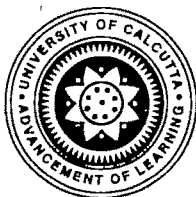
2003-2004

Amarendranath Lahiri Memorial Volume

Edited by

Subid Chattopadhyay

*Head of the Department of
Ancient Indian History and Culture
Calcutta University*



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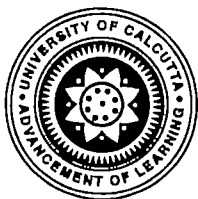
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Professor Amarendranath Lahiri

Yakṣma a Vedic Malady: Search for a Social Context

SUKLA DAS

Disease and system of medicine have now become prominent themes of historical scholarship. Scholars have admitted that science and medicine are social institutions influenced by society and culture. This interpretation has opened up areas for exploration in this line.

Diseases are not unchanging phenomena. Their appearance and character are subject to historical development because 'disease-panorama' varies. History of diseases can be stretched very far back in time for as long as man has existed he has been tormented by disease. Folke Henschen has made the famous remark that 'history of mankind is the history of diseases'¹ but he regretted that historians usually never think medically.^{1a}

This view however needs a revision because presently the area of historical investigation has considerably been widened by incorporating history of medicine and historical pathology within its purview.

History of medicine in India can be traced to the remote past. The earliest recorded mention is to be found in the *Rg Veda*, one of the oldest repositories of human knowledge^{1b} though evidence is randomly inserted.² In fact the Vedic corpus elucidates its own understanding of health, meaning of disease and journey from illness to health.³ These insights were gradually defined, systematically clinically verified, orally transmitted and eventually transcribed.

Throughout the Vedic texts we decipher constant questioning and unremitting search for answers to understand what goes on around⁴ and in this context a long list of diseases that afflicted the Vedic people comes under sharp focus.⁵ The vast mass of the Vedic literature therefore helps us to trace the history of diseases as well which provides clues to the understanding of the evolution of intellect, science and knowledge of man.

Of all the diseases enumerated, *Yakṣma* (consumption) occurs in bold relief since the time of the *Rg Veda*⁶ which afflicted not only human beings but also the cattlefolk⁷ and we notice an undercurrent tension centred round this disease and all existing herbs were invoked to lend aid.⁸ In fact, *Ayakṣma* or non-occurrence of this disease forms the prime prayer of the Vedic seers.⁹

Scholarly opinion differ over the implication of the Vedic word *Yakṣma*. One view suggests that it denoted a class of diseases whose primary feature was consumption,¹⁰ while the other considers that in the Vedic perception *Yakṣma* simply implied an external force which when entered the body caused

malady.¹¹ Without going into scholarly controversy if we focus attention on the pathological symptoms it will be evident that *Yakṣma* enumerated in its multifacets surprisingly has resemblance with tuberculosis of the present day:

Recent trend analysis reveals that of communicable diseases tuberculosis (*Yakṣmā*) remains the major killer andcrippler in developing countries and in 1997 WHO South East Asia Region accounted for almost 40 p.c. of tuberculosis cases reported globally and significantly India bears the major case load.¹² It is computed that in India one person dies of tuberculosis every minute.¹³ This grim scenario undoubtedly is highly alarming because health is the real indicator of human development.^{13a} *Yakṣmā* it appears is a legacy of the past and it makes our glance back all the more significant.

Archaeological evidence indicates that tuberculosis afflicted prehistoric people at least from the Neolithic age in different parts of the world. Spinal tuberculosis has been detected in numerous Egyptian mummies from the third millennium before Christ.¹⁴ The mummy of a young Twenty - first Dynasty priest (C. 1000 B.C.) showing damage in the twelfth thoracic and first lumbar vertebrae as well as so-called abscess cavity on the right side are evidence that the disease then had already taken roots.^{14a} The Vedic texts seem to be the earliest recorded evidence describing signs and symptoms of tuberculosis.

The Vedic attitude towards the disease was dominated by two notions. Concept of internal disease was based on the fundamental notion that malevolent forces entered the body and caused illness.¹⁵ Ailments that affected the exterior of the body like wounds, fracture, insect bite and the like were categorized as external disease.¹⁶ *Yakṣma* evidently was perceived as an internal disease.¹⁷

The Vedic texts refer to fever, weight loss, muscular aches, disintegration of limbs in relation to *Yakṣma*¹⁸ affecting every limb including lungs, spine and bone¹⁹ and specifically noted that victims of *Yakṣma* were children, adults²⁰ as well as cattle.²¹

Modern researches have established that tuberculosis of the human and bovine strains is worldwide and is most prevalent in less developed areas such as India²² and age has a definite influence on susceptibility to infection causing children the prime victims.²³ The Vedic observations thus can in no way be underrated.

It is interesting to note that the Vedic texts refer to *Rāja Yakṣma*,²⁴ *Jāyānya*²⁵ as well as *Ajñātu Yakṣma*²⁶ which cannot be definitely explained. A myth developed in the later Vedic literature²⁷ relates that the king *Soma* was given in marriage thirty three daughters of *Prajāpati* but *Soma* had a

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fascination for *Rohiṇī* only. This attitude of *Soma* infuriated other thirty two wives who returned to their father's house. *Soma* coaxed them to come back but *Prajāpati* allowed them to go on condition that equal treatment be given to all. *Soma* broke the oath hence he was afflicted by *Yakṣma*. Since it had attacked a King the term *Rāja Yakṣma* came into vogue and since *Soma* had committed a sin the word *Pāpa Yakṣma* became prevalent and since he contracted it from his wives the word *Jāyānya* did originate.²⁸

If we decode the myth one thing will emerge that the Vedic thought could co-relate dissemination of *Yakṣma* through contact. *Ajñāta Yakṣma* however is an enigmatic term which is difficult to define. Could it be that it implied a clinically silent state observed by modern medicine?²⁹

Principal cures of *Yakṣma* advocated by the Vedic health providers were in tune with the magico-religious ideology, Consumption was sought to be expelled from patient's body through recitation of spells³⁰ and incantations,³¹ use of amulets³² supposed to be power substances having a medicinal significance³³ along with herbal therapy³⁴ in the form of drinks and ointment for application.³⁵ Disinfectant fumes of gulgulu (bdellium, Commiphora wightii) c mukul which has hypolipaeamic effect) are also recommended to disperse them.³⁶

Apparently magico-religious therapeutics were in vogue but strikingly the Vedic thinkers conceived *Agni* (fire)³⁷, *Savitṛ* (Sun), *Vāyu* (air)³⁸ and *Āpo* (water)³⁹ as the most helpful divinities for eradication of *Yakṣma*.

The *Atharva Veda* highlights the wrath of divinities and influences of malefic agents as the causes of disease.⁴⁰ The invisible malevolent forces abundantly mentioned in the Vedic literature for the causes of *Yakṣma* according to some scholars surely were not demons as misinterpreted.⁴¹ The concept of powerfully virulent harmful organisms that surfaced in the classical medical text *Suśruta Saṁhitā*⁴² might have been in a nucleus form in the Vedic perception. Invocation of *Agni* conceptualized him as the destroyer of malevolent forces.⁴³ Similar function is attributed to the Sun⁴⁴, water⁴⁵ and wind.⁴⁶

Significantly, fire is a great sterilizer, Sun the disinfectant, wind the purifier and water the cleanser and Vedic strategies relating to the management of *Yakṣma* therefore highlight ecological vision of the thinkers.⁴⁷ Without minimizing the magico-religious roots of their healing system, it has to be underlined that the Vedic people did not miss a connecting link between *Yakṣma* and its predilection to infection. Hence emphasis was laid on disinfective practices.

Modern Human Studies of malnutrition in underdeveloped countries demonstrate a causal association between undernutrition and immunosuppression that results in diminished resistance to infectious diseases.⁴⁸ A perusal of the Vedic texts suggests that the Vedic thinkers did decipher a connection between dietary deficiencies and *Yakṣma*. 'Give us food that will prevent *Yakṣma*'⁴⁹ is an outstanding prayer in this context where a deep social concern is evident.

Human resources are one of the most important factors for social development. Malnutrition and disease are the two important bars.⁵⁰ In fact fear of losing life had a predominant place in the Vedic consciousness⁵¹ and internal evidence amply demonstrates that the Vedic thinkers considered life as of supreme value⁵² but their increasing life expectancy did not imply an extended period of frailty and dependency⁵⁴ but vigorous good health for length of their biological life span⁵⁵ and this brings out in bold relief a 'robust optimism'.⁵⁶ The Vedic hymns therefore are eloquent in seeking aids from the divinities to surmount multifarious mundane problems that endanger life and living.

Of all the Vedic prayers, prayer for food seems to be the most prominent. Food,⁵⁷ abundant food,⁵⁸ nutritional food,⁵⁹ food for physical valour⁶⁰ and food for social prestige⁶¹ repeatedly occur in the Vedic texts. In fact glorification of food became a recurrent feature⁶² and virtues of hospitality and offering of food was strongly advocated⁶³ and subsequently its wastage was severely condemned.⁶⁴

A word for food frequently used in the *Ṛg Veda* is *Pitu*⁶⁵ and Sāyana has explained it as *pālakamannam* which in general sense implied nourishment. The basic food pattern of the Vedic people, it appears, was simple. It included cereals like *Yuva* (barley) in the early phase⁶⁶ with subsequent inductions like *Vrīhi* (rice)⁶⁷ and *Godhūma* (wheat),⁶⁸ lentils like *Māṣa*,⁶⁹ *Mudga*,⁷⁰ *Musūra*,⁷¹ a limited variety of vegetables, roots and fruits,⁷² honey,⁷³ milk and dairy products⁷⁴ and animal flesh.⁷⁵ Being a cattle rearing society at its early phase the Vedic people were obsessed with the cow and they primarily lived on beef and milk products.⁷⁶ Pervasive influence of cattle is revealed by the kernel of the *Ṛg Vedic* text.^{76a} Modern medicine has proved that tuberculous infections also spread through tuberculous dairy cow.⁷⁷ Concerning the pre-history of tuberculosis some scholars suggest that it first affected humans only after people started to domesticate cattle.⁷⁸ Occurrence of *Yakṣma* among the Vedic people through the bovine strain therefore was quite plausible as dietary choices to a considerable extent affect health.

Though it is difficult to locate their awareness of this co-relation, it is

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significant to note that a whole Vedic hymn addressed to *Pitu* (nutriment) mentions all items of food with which they were acquainted except meat.⁷⁹ Subsequently however a special sanctity was attached to cow under a changing socio-economic scenario and beef eating gradually came into disfavour.⁸⁰ Was health considerations⁸¹ also coming up at the back of their mind remains a pertinent query.

Modern research has pinpointed that the level of dietary inadequacy is the dominant determinant of undernutrition⁸² and dietary improvements are the prime means of promoting natural immunity to infections.⁸³ This calls for a search for the level of dietary intake of the Vedic people. Sukumari Bhattacharya's thesis emphatically establishes that food shortage was extensive in the Vedic society.⁸⁴ A collective yearning for food that finds reflection in the Vedic corpus is an index to this phenomenon.⁸⁵ The early Vedic society had a non food producing economy.⁸⁶ In an economy based on cattle rearing supplemented by agriculture and buttressed by acquisition of booty and distribution, the mobile militant tribal groups had to face situations of scarcity and uncertainties.⁸⁷ Distribution appears to be an important function of the *Vidatha* (a tribal assembly)⁸⁸ though its nature cannot be ascertained. The unit of production and the unit of consumption was not strictly demarcated⁸⁹ but a social disparity began to surface⁹⁰ leading to social tension.

Stratified society became more pronounced with the beginning of the later Vedic period and access to food was limited primarily to some definite groups.⁹¹ Consequently the later Vedic texts reflect a painful underlying necessity; shortage of food under inadequate system of production.⁹² Hence a large portion of the society, it may be assumed, was living on margins of scarcity.

Food shortage becomes all the more pronounced with escalation of population. Although it is an impossible pursuit to bring out the demographic pattern of the Vedic society from the textual evidence, one feature however needs a pointed attention. The Vedic hymns are eloquent with prayers for unlimited sons for more fighting hands.⁹³ Hence the society sanctioned the system of levirate (niyoga)⁹⁴ and widow remarriage.⁹⁵ In fact they could not afford to immolate the young widows or to keep them sterile. The social attitude must have had an impact on population hike.⁹⁶ Researches have checked it up with Painted Gray Ware Settlement pattern which is considered as contemporary of the later Vedic period.⁹⁷

If society was diagonally divided between the haves and have nots,⁹⁸ if there was inadequate food production,⁹⁹ system of distribution disproportionate,¹⁰⁰ and if abundance of sons was constantly prayed for

multiplicaiton of stock,¹⁰¹ scarcity of food would inevitably become a common malady. The Vedic literature is thus goaded with the experiences of uncertainties of the food situation,¹⁰² apprehension of hunger¹⁰³ and pangs of starvation.¹⁰⁴

Considering this socio-economic milieu it may thus be assumed that elements of nutritional deprivation did embrace the life and living of the Vedic people and it is known that nutrition plays a key role in the etiology of tuberculosis.¹⁰⁵ Starvation can undermine individual resistance at virtually every line of bodily defence and it seems that erosion of the quality of human resources strikingly perturbed the Vedic seers.¹⁰⁶

It has been suggested by the scholars that tuberculosis also afflicted the people from pre-historic times not because of introduction of foreign pathogens into virgin population but from the changes in the host populaiton and its environment.¹⁰⁷ The Vedic literature is a commentary of such multidimensional changes¹⁰⁸ which needs a broader canvas for discussion. When a limited geographical unit had disproportionate population concentration that presumably favoured chances of spread of infection, the concept of infection could not have been absent in the Vedic thought process.¹⁰⁹ The Vedic situation was thus conducive to occurrence of *Yakṣma* which posed a significant health problem.

Close observation of the Vedic thinkers have left a body of informaiton in relation to *Yakṣma*, an ailment in which one can decipher major signs and symptoms of present tuberculosis. The Vedic sources pinpoint that it was a disease of remote antiquity in the Indian context only to be newly identified.

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Stūpa Motifs in Pāla Manuscript Paintings

SUDIPA BANDYOPADHYAY

The manuscript paintings of the Buddhists, such as the *Ashtasāhasrikā Prajñāpāramitā* (ASPP), the *Pañchaviṃśatisāhasrikā Prajñāramitā* (PVSP) the *Pañcharakshā* (PR), the *Kāraṇḍavyūhasūtra* (KVS), etc. are of incalculable help for studying architectural motifs in Pāla-Sena art. Chronologically they belong to the time-bracket of the eleventh-twelfth century. Of the various illustrated manuscripts displaying architectural motifs of different designations and elevations the most important are the ASPP and the KVS of the 11th-12th century. The shrine motifs depicted in these paintings may be classified under bhadrā, stūpa-śīrṣha bhadrā and śikhara-śīrṣha bhadrā deuls. Stūpa forms in pigment are also of different designations. In this paper I shall concentrate only on the stūpa motifs in pigment.

On the basis of architectonic forms in their fulness, stūpa motifs seem to be the most widely used motifs in the pictorial art of the period. The main components of a fully developed stūpa from ground level upwards are: (a) **Vedī** or ground balustrade separating the sacred precinct (b) **Medhi** or drum (c) **Aṇḍa** or dome (d) **Harmikā** or a pavilion for setting a shaft (e) **Chhatras** or umbrellas surrounding a yashṭi or shaft and (f) **Dhvaja** or finial.

The basement of a stūpa i.e. **vedī** demarcates the sacred precincts from outside and much of the elevation of the superstructure of a stūpa and its formation depends on it. The stūpa motifs in the art of the period reveal two types of vedīs - circular and four-sided. A circular vedī can be seen in the painted representation of Lokanātha in the illustrated manuscript of ASPP, housed in the Cambridge University library.¹ A four-sided vedī can be seen in a painted representation of Prajñāpāramitā Uddhāra in the illustrated manuscript of PVSP of the 8th regnal year of Harivarmādeva (an eleventh-twelfth century ruler of the Varman dynasty of Bengal), now housed in the Baroda Museum and Picture Gallery.²

Medhi or drum is the terrace surrounding the aṇḍa or the dome. The medhi was of varied shapes: circular, four-sided, hexagonal and lotus-shaped. Among the four different types of medhi, an illustrated manuscript of ASPP preserved in the Asiatic Society, Kolkata, shows a pair of stūpa motifs with lotus-shaped medhi on either side of a palm tree on the right of the painted representation of Dīpaṅkara Buddha.³

Among the various components of a stūpa, **aṇḍa** is the most important. Generally three types of aṇḍa are discernible in Pāla-Sena art - hemispherical aṇḍa, bulbous aṇḍa and lotus-shaped aṇḍa. The first variety can be seen in an eleventh century miniature in the ASPP, preserved in the Cambridge University Library with the accompanying lable 'Tūlākshetre Vardhamāna Stūpaḥ'. A perfect hemispherical aṇḍa is seen in the stūpas depicted.⁴ Another representation of a stūpa with hemispherical aṇḍa can be seen in the same manuscript bearing the label 'Dharmarājika Chaitya in Rāḍha'.⁵ To this may be added the instance borne by a manuscript of the ASPP in the Asiatic Society collection, Kolkata, dated 1071 A.D. bearing the label 'Sirṅhaladvīpe Dīpaṅkara Abhayasthā' (PLATE-I).⁶ Another variety of hemispherical aṇḍa (flattened at the top) can be seen in a painted representation of Prajñāpāramitā Uddhāra in the illustrated manuscript of PVSPP preserved in the Baroda Museum and Picture Gallery. Bulbous aṇḍa and lotus-shaped aṇḍa are rarely seen in the manuscript paintings of the period.

Harmikā or little pavilion in an arc or cube is built above the aṇḍa and is either circular or square in shape. It is usually fenced in by a vedikā or railing. A circular harmikā appears in the painted manuscript of the ASPP preserved in the Cambridge University Library with the accompanying lable 'Vārendra Tūlākshetra-Lokaṇāthah'.⁷ Another instance can be traced in a painting of Prajñāpāramitā Uddhāra in PVSPP, preserved in the Baroda Museum and Picture Gallery. In the painting a stūpa motif has been endowed with knob-like projections on either side of the circular harmikā.

The final stage of elevation of the stūpa is **chhatrāvalī** and **dhvaja**. A manuscript painting of Dīpaṅkara in the ASPP of the Asiatic Society collection, Kolkata, carries a stūpa motif of seven chhatras.⁸ But in art works of other media of the Pāla-Sena period the chhatras are not restricted to seven; there are one, three, five, seven, nine, eleven and thirteen chhatras as well, forming a conical shape around the yashṭi or shaft.

Finial or **dhvaja** is the final point of the uppermost phase of a stūpa elevation. Finials of different forms appear as motifs in the art of the period: flamboyant finial, vase-shaped finial and finial with crescent and sun, occasionally with a rain-water disc or varshasthala placed below the crescent and sun. Among these, crescent and sun finial with varshasthala can be found in the manuscript paintings of the period. In an illustrated manuscript painting of Dīpaṅkara Buddha in the ASPP of Asiatic Society, Kolkata, a palm tree is seen flanked by two stūpa motifs showing a decorated canopy with two suspending festoons and varshasthala.⁹ Finial with crescent and sun is also

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distinctly visible on the right side of the central figure of Avalokiteśvara in the manuscript painting of the KVS.¹⁰ Finial surmounted by varshasthala is also found in a manuscript painting of Lokanātha in the ASPP, housed in the Cambridge University Library, where two rows of stūpa replicas are painted on either side of a temple on the ground level.¹¹

On the basis of the pictorial representations of the stūpa motifs in Pāla-Sena art it can be said that unlike stone, metal or wooden sculptures the specimens of the pictorial art are all drawn in outline, the inner space created by such outlines being filled up with distinguishing pigment. Most of these manuscripts have been discovered outside the territorial limits of the Pāla-Sena empire, but they undeniably represent masterly treatment of Pāla art idiom. Some of them are hazy and indistinct; others, which are still clean and bright in colour, are full and square. Colour composition of these paintings are sometimes remarkably contrasting. In almost all cases the motifs represent full architectonic forms of some temple or stūpa in their frontal delineation, recalling similar items of the lithic and metal repertoire. The labels accompanying the relevant paintings in each case identify the respective shrines, their locations and deities installed. The artists painted at least thirty-two important shrines of different parts of the Buddhist world of the period under review, of which about two-thirds are from Eastern India. The advent and spread of the Mahāyāna sect led to the importation of various deities in the fold of Buddhist iconography. Therefore the Buddhist art of the Pāla-Sena period became more and more idol-centred. Hence the abundance of stūpa motifs in the pictorial and other art forms of the period.

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Glimpses of Knowledge as gleaned from the Ṛg Veda Saūhitā

NANDITA CHAUDHURI

A very close study of the *Ṛg Veda Samhitā* reveals the many dimensions of knowledge - intellectual, spiritual, mythological, speculative or philosophical as well as practical. The conception of high and low knowledge and the concept of division of labour and division of professions according to caste had not emerged. There was however, another division in society which cut across the simple class structure. This was division into tribes for which the word *jana* has been used such as *Pañca-janāḥ* or *Yadva-jana*. The archaeological remains of the Ṛg Vedic region datable to the 2nd millennium B.C. provide further insights into the material knowledge these people possessed. It is evident that the Ṛg Vedic society was not a very primitive society, despite the absence of towns. Contrary to widespread characterization, society was not essentially pastoral. Rather the pastoral sector was important because of the requirements of agriculture, the large herds of cattle being a kind of capital from which those who cultivated the soil drew their animal power. The classes that held the surplus, extracted from agriculture, were the rulers and the priests. Class differentiation between those who ruled or pursued their gain and those who laboured is manifested in a hymn where Dawn is said to awaken 'one to high sway, another to exalted glory, another to pursue his gain, another to labour'¹. The *Purusa Sūkta* hymn² shows that the social organization or social order of the Vedic Aryans was just evolving and the caste system was not at all rigid.

Within this social framework, knowledge was not regarded as a privilege of any caste. Though *Ṛṣis* and seers were Brahmins, it was not exclusively so. Professions also were not hereditary. Thus the priests, the warriors, the aristocracy and the common people³ had access to all types of knowledge and took up any activity they desired. The common people were mainly interested in the day-to-day activities necessary for existence and it was through these activities that economic life of the Indo-Aryans advanced spontaneously. Even though there are indirect references to different vocations carried on by them in the *Ṛg Veda*, these vocations definitely enabled everyone in the Indo-Aryan society to lead a comparatively easy life. It not only enabled the warriors to engage themselves in warfare and the priests to carry on their sacrifices and

compose the Veda but a group of people also engaged themselves in different speculations about creation and the origin of the universe.

A detailed study of the *Ṛg Veda Samhitā* shows that material progress and prosperity seemed to be the objective of many people who were engaged in diverse occupations. The craftsmen were all free members of the tribe, not degraded in caste status.⁴ A hymn from the *Ṛg Veda* provides a glimpse of the vocations that were followed by different people.⁵ Priesthood already formed a profession. But all members of a family did not tend towards *Ṛsi* hood. In the hymn, the mother of a *Ṛsi* happens to be an illiterate lady who behaves like a good housewife grinding corn, while his father is a physician, curing persons for the sake of earning his family's livelihood. Each is after some material gain. The carpenter seeks something that is broken. The blacksmith searches for reeds, for making arrows and glistening stones which were to be used for making heads of the arrows. The wealthy capitalist paid the artisans for goods made by them. Thus everyone had a definite function to perform in society, and probably also had the responsibility of transmitting their knowledge to the next generation through practical means or the method of learning by doing—a foolproof method of ensuring the continuance of the profession.

Cattle rearing was probably the main occupation of the early Indo-Aryans. The cow was a precious commodity and the main wealth of the Indo-Aryans. There are many hymns and prayers to the Gods for prosperity in cattle rearing. The horse was also regarded as valuable, specially, as it was used in warfare and harnessed before the chariot. The goat was another useful animal. The buffalo is also referred to in many hymns. It was yoked to the cart. The use of the ass has been clearly portrayed in the *Ṛg Veda* where it is described as yoked to the firmly jointed car and driving the *Aśvins*. Dogs were used by the *Ṛg Vedic* people for hunting. Cattle served as the source of milk and meat.

The oxen were used for ploughing, irrigation and cart-transport. A fear of forest fires and cattle raids, and a love for *Aranyānī*, the Goddess of forest and protectress of man pasturing cattle or seeking fruit are reflected in the *Samhitā*.⁶

The more permanent settling down of the Indo-Aryans led to a change in occupation. From tending herds of cattle, they took to cultivation which required more expertise and thus it came to be regarded as a highly honoured occupation that distinguished the *Ārya* from a *Vrātya*. The cultivated field was *kṣetra*; *kṛṣi* referred to the act of ploughing. The plough (*lāṅgala*, *sīra*) and the ploughshare (*phālu*), furrow (*sītā*) and even the ploughman's goad (*aṣṭrū*) to control the draught oxen are mentioned. A ploughed field, datable to the

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11th Century B. C. has been found in Aligama (Swat Valley) so that textual evidence is here remarkably confirmed by the archaeologist's spade. The Ṛg Veda also speaks of the stone pulley wheel (*āśmacakra*) and of its use in drawing up water in strapped wooden pails (*āhāva*) out of the well (*avaṭa*). The ox being the draught-animal, it can be assumed that it was put to use to draw the rope over the pulley wheel in order to lift water out of the well and have it led into broad channels (*sūrmī suṣirā*). Therefore there are numerous references which allude to the knowledge of cultivation such as drawing of plough with the help of bullocks, the sowing of seeds in the furrows, the assessment of soil, the recognition of plants and the importance of utilizing the natural resources.

Watercourses were dug out⁷ and canals were used for watering the ground.⁸ Wells for the purposes of irrigation are also mentioned.⁹ The cutting of the corn, laying it down to order, threshing and winnowing are also mentioned. The ripe grain was cut with a sickle. The harvest was collected in bundles and taken home in batches. The bundles are referred to as being beaten or trampled upon, on the floor of the granary. The next operation was the separation of grain from straw which was done with the help of the sieve or a winnowing fan. For the measurement of the grain, a wooden vessel was used. After the cleaning process the grain was stored in granaries.¹⁰ This knowledge of agriculture was linked with their survival and the need for a steady increase in the food supply is also reflected from the repeated heart-felt entreaties to Indra again and again for the boons of cattle and seed. This also indicates a gradual inculcation of sedentarism in the people who were originally nomadic. The processes of cultural evolution were having their effects on the early Indo-Aryans who were already beginning to practice agriculture in addition to pastoralism.¹¹

Knowledge of arts and crafts became imminent for subsistence. Not all crafts find mention in the Ṛg Veda. But knowledge of carpentry, metal work, textile weaving, minor building works are implied in several hymns of the Ṛg Veda as highly valuable. It can be assumed that knowledge of these vocations had been present in the Harappan age and they were imbibed, mastered and modified by the Ṛg Vedic Aryans.

The carpenter or wood worker (*Takṣan*) was regarded as a highly honoured member of the community. He constructed carts, chariots for war, and races, wheels and war drums, household implements, furniture and delicately carved works.¹² Ṛg Vedic references reveal that the Vedic carpenter had attained a high degree of competence in his trade. The fashioning of the wheels, the fitting on of tyres, the construction of chariots of special shape and design like those

with three wheels with ornamental pillars and decorated awnings, strong frames and axles are vividly referred to in the *Ṛg Veda*.

The knowledge of weaving was well known. The weaver (*Vāya*) created clothing made of wool. This would not be unnatural in Punjab with its severe winters. The women were engaged in the plaiting of mats, weaving and sewing and manufactured the wool of sheep into clothing.¹³ An incidental reference to *sirīś* suggests that yarn was spun by women. The weaver's thread was used to make coverlets and dresses and the cutting of thread by mice has been compared in the *Ṛg Veda* to the sorrow which cuts and devours people. Though cotton is not mentioned in the *Ṛg Veda* it was cultivated in the Indus civilization and continued to be cultivated later as evidences of archaeology show. The tripe-twisted thread was known to the *Ṛg Vedic* Aryans which shows that they could spin the finest type of cloth. The use of needles was also known.¹⁴ The God *Pūṣan* is described as busy weaving cloth and making a garment of it. The *Puruṣnī* country is referred to as famous for its wool and *Gandhāra*, for its sheep. The Indus region too is highly praised for its quality of wool.¹⁵

Metallurgy at its rudimentary level, was practiced by the metal smiths and they used laborious methods as described in the *Ṛg Vedic* hymns. Knowledge of working in stone, copper and bronze was present. The metal smith was in great demand. Pots, pans, kettles, axes, razors, spears, daggers, swords and the soma cup made of metal have been referred to in different parts of the *Ṛg Veda*. The metal smith (*Karmakāra*) smelted ore in the furnace and used wings of birds, in place of bellows to fan the flame.¹⁶ Ripe and seasoned plants served as fuel for smelting. Helmets of gold, spears, weapons of gold, lances on the shoulder, gold chain, anklets and crowns were manufactured also.¹⁷ For agricultural purposes the metal smith manufactured spade (*abhri*), sickle (*dātra* or *sṛṇī*), ploughshare (*phāla*).¹⁸ Gold or *hiranya* was known. The word *niṣka* appears in the *Ṛg Veda* as a gold ornament or necklet but it was already beginning, possibly, to serve as a unit of money or medium of exchange. A priest claims to have received a hundred *niṣkas*¹⁹ along with hundred horses as fees for a hundred sacrifices. Gems were also known and gems on the cars of *Maruts* are mentioned in the *Ṛg Veda*.²⁰

Though the knowledge of making pots is not clearly mentioned in the *Ṛg Veda*, we can draw conclusions about this flourishing industry from some similes used in the *Ṛg Vedic* hymns and from references to earthen vessels. In one of the hymns *Śakra* is described as destroying his enemies as easily as an earthen vessel is broken.²¹

Knowledge of leatherwork in *Ṛg Vedic* times led to a flourishing leather industry. There was abundant supply of raw material. The art of tanning was

Glimpses of Knowledge as gleaned from the *R̥g Veda*: Saūhitā

known to the *R̥g Vedic* people.²² The tanner stretched the hide and also processed it by wetting it.²³ The leather-worker manufactured various articles out of hide such as bow-strings,²⁴ a sling,²⁵ thongs to fasten chariots,²⁶ reins for horses,²⁷ the lash of a whip,²⁸ skin vessels²⁹ for storing honey, curd and soma juice. Leather armour³⁰ and leather guard of the forearm³¹ for warriors were made. Leather bottles were used for soma juice; leather troughs were manufactured for horses to drink water.³² War drums,³³ reins, bridle, saddle, whip, leather straps of the plough³⁴ were also made from leather.

Knowledge of usury is also evident in *R̥g Vedic* times. Both barter and precious metal transactions are implied in the *R̥g Veda*. Even Indra's favour, in one instance is sold away or leased for ten cows. The *R̥g Veda* has many references to the *paṇis*, a name probably derived from *paṇ* or barter and applied in the hymns to a wealthy, niggardly people, hostile to the gods and priests and non-Aryan in speech.³⁵

There are references to the barber, stone carver, basket maker, dyer, ropemaker and wine distiller whose work is not described. But this shows that *R̥g Vedic* society was busy, dynamic and always eager to acquire knowledge. Every type or direction of knowledge imbibed by the Indo-Aryans helped in the material improvement of the people and led to a further urge to know and improve their physical and mental status.

Apart from the practical knowledge required for daily life and subsistence, the positive scientific attitude of the Aryans helped them to imbibe a knowledge of different sciences. These sciences were interpreted and utilized according to the needs of the environment. Medical science was not advanced definitely, but they possessed the drive to know medical matters and the application of it was logically handled. Knowledge of medicine is evident in an entire hymn in praise of the healing herb or *oṣadhi*, where the herbs are compared to mothers, and steed, cows and garment are the fees of the physician for people who are cured. The same hymn also states categorically that the wise physician is one, around whom the herbs gather just like the king's war council where chiefs gather all around the king.

Some of the Vedic gods are specially praised in the *R̥g Veda* because of their medical knowledge and skill in medical practice, such as Rudra, who is regarded as 'famed aspect of all physicians'.³⁶ Brahmā, the twin Aśvins, Indra and Agni all provide medical help. In another section water and air as medicine for all diseases³⁷ have been mentioned. Names of many plants have also been mentioned to be used as medicine such as *aśvavatī*, *somavatī*, *ūrjayantī*, *udojas*. Soma is described as the king of all medicinal plants.³⁸ Veterinary science was also in the making as it is mentioned that the physicians,

prayed to the medicinal plants so that their four-footed animals might remain free of diseases.³⁹ *Mānasa-cikitsā* is also mentioned, that is, treatment of diseases by touches of hand.⁴⁰ There are many more instances of medical science in the making but the most important fact is the positive attitude towards this science as opposed to the law codes of later times that reveal a hostile attitude and contempt for medicine. Knowledge of physiology and anatomy is also displayed. The treatment of a disease named *Yakṣman* assumed to be consumption⁴¹ and the mention of different troubles at the time of formation and development of a foetus in the womb of a woman⁴² are proofs of this knowledge. There are incantations against jaundice,⁴³ venomous reptiles,⁴⁴ worms, insects, scorpions, roots and artificial poison.

Archaeology has confirmed a virtual absence around this time of commercial contacts with West Asia. However, the concept of ocean voyages and trade was known and mentioned as 'a mythical voyage of three days and nights in a ship with hundred oars'⁴⁵; an allusion is made of 'merchants desirous of wealth surrounding the sea, so do the priests surround Indra and win him with their lands'⁴⁶. There is a reference too of a wandering *vaṇijja*.⁴⁷

The Indo-Aryans of the *Ṛg Veda* were unsure of the natural powers but remarkably aware of the rhythms in which things automatically happened such as passing of day into night,⁴⁸ change of seasons, new moon and full moon days, which was beyond the control of men and gods. This peculiar complex of natural as well as social law was regarded as *ṛta*. In the understanding of the Vedic poets, the *ṛta* was an independent principle operating in the universe by its own inner dynamism and the Vedic gods were supposed to observe it and act according to it. Thus a knowledge of environmental consciousness and awareness was already present. In the very first hymn of the *Ṛg Veda* we come across the word 'Law Eternal', 'Power Divine', 'Asuras of Gods', 'Laws of Heaven' all imply the conception of the order of the world - *ṛta*. Everything in the universe, which was conceived as showing regularity of action, was said to have *ṛta* for its principle. In its most general application the conception expressed by the word occupied to some extent the place of natural and moral law, fate or the will of a supreme God. Though it is not found in a chiselled form in the *Ṛg Veda*, the importance of the concept of *ṛta* was such that it is mentioned four hundred and fifty times in the *Ṛg Veda*.⁴⁹

The geographical knowledge of the Indo-Aryans was confined to their experiences. This is evident from the reference to the rivers. In a hymn,⁵⁰ *Sapta-Sindhava* is used which is generally taken to include the seven Sindhu rivers, namely, the Sindhu (Indus) itself; the five rivers of Punjab - the Śutudrī (modern Sutlej), Vipāś (Beas), Paruṣṇī (Ravi), Asiknī (Chenab) and Vitastā (Jhelum);

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and Sarasvatī (probably including courses of the modern Sarsuti and Ghaggar-Hakra). A number of other tributaries of the Indus are mentioned, all being western tributaries. The references to Sarasvatī are particularly numerous and interesting. She is described as *Sindhu-mātā* 'great among the great, the mightiest of rivers', 'most motherly', most 'riverly' and 'most goddessly'. A study of some hymns also show that the authors of the *Ṛg Veda* were, at that time, aware of the effects of tectonic upheavals in the mountains and of occasional diversions of river courses and exceptional floods.

The Indo-Aryan knowledge regarding seasons is presented in the form of riddles in the *Ṛg Veda* such as - 'three naves has the immortal never-stopping wheel'⁵¹ which implies the three seasons - summer, rainy season and winter - and on this wheel, all existing things depend. The earth was seen as a wheel and not as a globe. The *Ṛg Veda* also shows a certain amount of speculation regarding the number of seasons. A knowledge that everything was not within human control and man's destiny was determined by some divine regulations shows the intense environmental awareness of the Indo-Aryans.

Very early, a philosophical consciousness also arose among some people and philosophical knowledge is evident among them. The *Ṛg Veda* reflects the early speculations that serve as the background of Indian philosophy. In the second *Maṇḍala*, this is appropriately represented in the speculations regarding the existence of Indra. The philosophic reflection of the *Ṛg Veda* was probably derived from the daily experience of things changing into one another and appearing and reappearing at their appointed seasons. Such constant changes in the natural phenomena such as birth, death, decay, change of seasons, time and even material objects, aroused wonder among the people, specially among a body of men who were known by the name of poets or *Kavis*. These poets were the divine philosophers of ancient India⁵² who inquired into the nature of the first cause or cosmic matter and of the cosmic process and its successive stages and the unity and order of the visible universe.

Most of the hymns related to philosophical speculations, are greatly concerned regarding the phenomena of origin and this is aptly represented in a hymn where *Ṛṣi* Dīrghatamas proclaims in an agnostic view—'What thing I truly am, I know not clearly: Mysterious, fettered in my mind I wander.'⁵³ The yearning to know is well represented here, which led to the spontaneous formulation of cosmological theories by *Ṛṣis*—Aghamarṣaṇa, Prajāpati Parameṣṭhin, Brahmanaspati, 'Anila', Dīrghatamas, 'Nārāyaṇa', 'Hiranyagarbha' and Viśvakarman—who are the divine philosophers of the *Ṛg Veda*.⁵⁴ Their philosophical hymns represent the sceptical or agonistic attitude of the time and the first signs of cosmological knowledge or application

of speculative techniques, to arrive at a conclusion, regarding creation of this world.

Knowledge of mathematics is subtly evident in the *Ṛg Veda*. The mathematical knowledge found in the Vedas is elementary and not impressive.⁵⁵ The knowledge of numbers is evident in several places in the *Ṛg Veda*. The numbers occurring in the *Ṛg Veda* show that a decimal system was in use for larger numbers (tens, hundreds, thousands). A primitive calendar is evident in the riddle hymns of the *Ṛg Veda*. To find the right time for religious, agricultural, educational and social occasions, the Indo-Aryans were motivated to record orally, recurrence of repeated events from seasons, stars, movements of planets, sun and moon. This helped in creating a framework for mapping of the movement of heavenly bodies. It has been assumed that the *Ṛg Vedic* people maintained sacred fires by adopting *nitya* (perpetual) and *kāmyā* (optional for wish fulfillments) for sacrifices and offerings. In the *Ṛg Veda* it is mentioned, 'He who desires heaven, must construct falcon shaped altar, for falcon is the best flyer among the birds'. These, according to A. K. Bag, may appear to be superstitions and fancies but it led to important contributions in geometry and mathematics because of their conviction in social value systems.⁵⁶

The Indo-Aryans also had a knowledge of eschatology. This is probably a reflection of past traditions too. In many of the hymns of the *Ṛg Veda*, there is also a belief in the existence of another world, where the highest material joys are attained as a result of the performances of sacrifices and also in a hell of darkness underneath, where evil-doers are punished.⁵⁷

Two kinds of intellectual knowledge can be conceptualized from the *Ṛg Veda*. Firstly, the intellectual knowledge for the ordinary students to lead a responsible life. Secondly, the highest intellectual knowledge leading to final liberation or *mokṣa* known as *Parama Brahmajñānam*. This knowledge was formally and deliberately constructed and fashioned according to the needs of the time. The formalized educational system comprised of a small domestic school, run by a teacher who admitted few pupils. The concept of institutionalized education had not developed much but, intellectual knowledge could be acquired only by living with the *Ṛṣi* under prescribed disciplines or vows as *Vratacārīs*. Evidence from the *Ṛg Veda Samhitā* shows that intellectual knowledge was held in high esteem. The concept of individualized higher learning is evident in another hymn of the *Ṛg Veda*⁵⁸ where it has been implied that all pupils in a class are not meant for higher intellectual learning and spiritual life. When collective life in a class ceased, each pupil by his individual effort—by his own *tapas* and *yoga*—had to achieve the truth of

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the texts. *Sukhās* or class fellows showed differences in mental powers. Thus the unfit or those who were not capable of attaining supreme knowledge were sent back to the plough or the loom. Only a few students could attain higher knowledge who would later become *Ṛsis*. All other knowledge was inferior to it. Though a scorn for other vocations and knowledge can be clearly noticed in the hymn, the *Ṛg Veda* also shows in a hymn, that members of the same family are engaged in different vocations.⁵⁹ This shows that the concept of social hierarchy had not emerged in the field of intellectual knowledge also.

Two important concepts of formal intellectual knowledge emerge from the *Ṛg Veda*. Firstly, knowledge must be acquired according to capacity. Students may show equality in the possession of their senses but betray inequality in respect of their power or speed of mind. Self-realization by means of *tapas* therefore, would be for the few. Secondly, formal education meant acquiring intellectual knowledge of the ordinary type and on the other hand, knowledge of the highest truth which characterized the *Ṛsi* or Seer.

Knowledge and life was inextricably related in the *Ṛg Vedic* times. The *Ṛg Veda Saūhitā* indicates that life was simple and the yearning for knowledge was always guided by the needs of daily existence on the one hand and the general, scientific and rational attitude to know about the unknown, on the other. The oral dissemination of knowledge was also ingeniously devised so that knowledge would fall into the appropriate hands who would transmit it to the next generation without any contamination.

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Devadatta—the Rebel Buddhist

A. K. CHATTERJEE

Probably the most enigmatic figure in the entire Buddhist canonical literature, is that of Devadatta, a Sakyan disciple of Gautama. We are told in the *Cullavagga*¹ that the six Sakyans collectively became the disciples of Gautama, and let us notice that except for Devadatta and Upāli, the others like Ānanda, Bhagu, Anuruddha and Kimbila have been given the epithet of *rājakumāru* and the reason is that Upāli was a barber and Devadatta was never painted decently in the books of the Pāli canonical writers. The relevant passage of this important text should be studied very closely. In fact Devadatta, is one of those luckless disciples of Gautama, who had the audacity to challenge Buddha's leadership of the Saṅgha, afterwards. The present writer is strongly of the opinion that Devadatta, with the exception of the *Mahāvagga*,² is always vilified both in the Pāli and Sanskrit canonical texts. The fact that Devadatta is even mentioned in the *Mahāvagga*, shows that he was one of the earlier monks of the Saṅgha. The *Mahāvagga* shows no acquaintance with any other Pāli text and the *Cullavagga* was composed long afterwards, but at least, before the Mauryan period.

Devadatta remained a loyal disciple to Gautama for a very long period and only became a Rebel Buddhist, a few years before Buddha's *parinirvāṇa*. It appears that he got active help from Ajātaśatru, who became restless for the throne of Magadha and we are told, that it was Devadatta who had instigated the crown-prince Ajātaśatru to murder his father Bimbisāra. We are however, of the opinion, that a greedy and unscrupulous man like him, needed no instigation for this heinous act. Devadatta had a few close friends, including one Brahmin Kokālika, who were against Gautama. Naturally with such friends, he wanted to wrest the leadership of the Saṅgha from Buddha who was in his early seventies, at the time of his rebellion. The others who befriended Devadatta, including Kokālika, were Katanodakatissaka, Khaṇḍadeviyāputta, Samuddadatta and they went to Gotama to impose five new conditions for the monks (Pañca-vatthunī) of the Saṅgha. Under these five rules a monk should spend his life in the forest, and should accept no invitation from the householders and live by begging and should wear rags of discarded cloth and also should abstain from nonvegetarian food (*yāvujjivam macchamamsam na khādaryu*).

There is no doubt that Devadatta was a champion of more strict rules for the monks of the Saṅgha and Gautama was unwilling to enforce all these hard

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rules, probably because he had easy access to the palaces of the potentates like Bimbisāra, Pasenadi and others. However, it appears that there was a personality-clash between these two, namely Gautama and Devadatta. The senior disciples of Gautama like Sāriputta, Moggallāna and Ānanda were also against Devadatta as they disliked him for his closeness to the monks, mentioned in the *Cullavagga*. Politically also, Ajātaśatru, after murdering Bimbisāra, started patronising Devadatta, which is also clear from the same Pāli text.⁴ Both Sāriputta and Moggallāna after pretending to support Devadatta, who had built a *Vihāra* with Ajātaśatru's patronage at Gayāsīsa, succeeded in bringing all the 500 rebel Buddhists of Devadatta's school to Gautama at Rājagaha.⁵ We also learn that after learning all these from Kokālika, he was utterly disappointed and blood came from his mouth⁶ (*lohitam mukhato ugacchi*). We are also told that his friend blamed him for allowing Sāriputta to address his followers, in his absence.⁷

There is every reason to believe that Buddha was afraid of Devadatta and this was noticed by at least two great rivals of Buddha including Mahāvīra and Purāṇa Kassapa. The *Majjhima Nikāya* has a very interesting *Sutta* called *Abhayarājakumārasutta*⁸ in which, we are told, that according to *Nigaṇṭha Nātaputta*, a true Tathāgata is not expected to behave in the same fashion as Buddha did after Devadatta's rebellion by calling him a bad man, a reprobate.⁹ This shows that according to Lord Mahāvīra, Gautama is not competent to be called a true Tathāgata. Gautama's clever reply, in this connexion cannot be fool, a modern historian, much less Abhaya, who too, is claimed by the Jains as a follower of Lord Mahāvīra.¹⁰ In any case, it is known that according to the Buddhists, themselves, Lord Mahāvīra knew Devadatta and his relation with Gautama. Let us turn our attention to another work called *Milindapañhu*, which refers to Devadatta and several *Jātaka* stories, where Devadatta has been shown as born in superior families¹¹, compared to Gautama and these stories are preserved in the *Amba Jātaka*,¹² *Dummedha Jātaka*,¹³ *Tittira Jātaka*,¹⁴ *Khāntivadi-Jātaka*,¹⁵ *Cullanandīya Jātaka*,¹⁶ *Takka-sukara*,¹⁷ *Suraparicara Jātaka*,¹⁸ *Ruru-Jātaka*,¹⁹ *Silavānāga Jātaka*,²⁰ *Apaṇṇaka Jātaka*,²¹ *Nigrodhamiva Jātaka*,²² *Mahāpadumma Jātaka*,²³ *Culladhumpāla Jātaka*²⁴ etc. These *Jātakas* show that in various births Devadatta was born in better families, compared to Gautama. There is no doubt that even in later period, debates were raging in the academic circles regarding Devadatta's relationship with Gautama.

The stories in connexion with Devadatta are extremely significant. The present writer is of the opinion that Devadatta-episode, later gave birth to the *Jātakas* and we can easily explain why Buddha could not tolerate Devadatta,

as he was not only a religious rival of Gautama, but also a man, who wanted to marry Gautama's wife after Buddha became a recluse. This is however told in the *Mahāvastu*,²⁵ where we find him approaching Gopā (*Mahākaccanā*) of the Pāli texts for her hand. The exact words, uttered by Devadatta and Nanda are exactly similar - “*mama bhrātā pravrajito, āgaccha mama agramahishi bhaviṣhyasi*”. We have no doubt that Devadatta was looked upon both as a religious rival, and at the same time, a personal rival of Gautama. The Smṛti texts, ascribed to both *Parāśara* and *Nārada*, prescribe remarriage of ladies, under five conditions.

*nashte mṛte pravrajite klīve ca patite patau
pañcasu āpatsu nārīṇāṃ patiranyo vidhīyate*

No less a person than Isvaracandra Vidyasagar was fond of quoting this verse²⁶ in connexion with *Vidhavā-vivāha*.

We now propose to discuss a very important point regarding Devadatta's school. The accounts of both Fa-hien²⁷ and Yuan Chwang²⁸ refer to the existence of the followers of Devadatta as late as the 7th century A.D., which is not a small matter. Therefore the Saṅgha founded by him, continued to exist for nearly 1500 years, and this is not a small achievement.

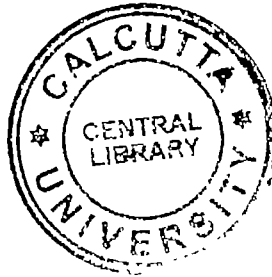
Devadatta like Gośāla and Mahāvīra wanted a more austere life in the *Saṅgha* and probably because of stiff opposition from senior Buddhist leaders, he was never allowed to raise his head in the Buddhist *Saṅgha*. But when we find reference to his followers as late as the 7th century A.D., we have to accept the existence of the school, founded by him.

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A Study of Śuśruta in the Light of Modern Science (Ancient and Contemporary Approaches)

TUSHAR KANTI BANERJEE

Śuśruta has established himself as the 'Father of Indian Surgery' through his monumental book on surgery known as *Śuśruta Samhitā*. Many experts consider him as the first surgeon to systematize surgery by dividing it into separate fields. He is known as the originator of plastic surgery, cataract operation, laparotomy and vesical lithotomy. The disease due to derangement of carbohydrate metabolism known as Diabetes Mellitus has also been described by him. According to A.O. Whipple¹, Śuśruta must be considered the greatest surgeon of the premedieval period.

Śuśruta lived sometime between 800 and 600 B.C and he practiced and taught the art of surgery at the university located in the holy city of Benaras. From the *Mahābhārata* we learn that Śuśruta was the son of Viśvāmitra. Unfortunately, the available text of *Śuśruta Samhitā* is not the original one, but is a result of revisions and compilations by many medical experts in ancient India. It may be noted in this context that Nāgārjuna worked over Śuśruta's treatise. An available text of *Śuśruta Samhitā* has been revised by one Candrate in the ninth century A.D.

The unavailability of the original text may be, to a certain measure, due to the prevailing notion of the times that it was ignoble and undignified to seek fame by self-propagation. This self-restraint coupled with the lack of knowledge in the Sanskrit language and subsequent foreign invasions may have led to a great extent to the loss of some valuable chapters in the history of Hindu medicine.

As, many Vedic hymns were ascribed to Śuśruta, he must have flourished during the later part of Vedic age, which would place him around 1000 B.C. From the form of construction of Sanskrit language, T. A. Wise² concluded that *Śuśruta Samhitā* was prepared in an extremely early age, probably from the third to the ninth century B.C. The *Samhitā* was translated to Arabic before the end of eighth century A.D. and was named *Kitab-i-Susrud* by Abillasiabil. Arabian physician Rhazes³ (882A.D.) repeatedly mentioned Śuśruta as the foremost authority in surgery. *Śuśruta Samhitā* has also been translated into several languages in the last century—as into Latin by Hessler, into English by Hoernle, and into German by Möller.

The *Śuśruta Samhitā* is divided into six parts covering many branches of

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medicine. Apart from surgery, it deals with anatomy, embryology, pathology, hygiene, midwifery, ophthalmology, toxicology, therapeutics (materia medica) and psychosomatic ailments. It contains two chapters on surgical instruments and mode of operation. Chapters III⁴ and XV⁵ of the text describes fracture and dislocations of bones. Śuśruta considered surgery as the first and foremost branch of medicine and states 'surgery has the superior advantage of producing instantaneous effects by means of surgical instruments and appliances. Hence, it is the highest in value of all the medical *tantras*'.

The basic concept of ancient Indian medicine was the doctrine of humours (*Doṣa*). Health was maintained through the even balance of three vital fluids - wind, gall and mucus (*Vāyu*, *Pittam* and *Kaphaḥ*), to which blood was added as fourth humour. The primary humours were connected with the scheme of the three *guṇas* (*Triguṇas*), or universal qualities and associated with virtue, passion and dullness, respectively. The bodily functions were maintained by the five winds or *Vāyu*, namely *Udāna* - emanating from the throat and causing speech; *Prāṇa* - in the heart and responsible for breathing and the swallowing of food; *Samāna* - which cooks and digests the food; *Apāna* - in the abdomen and responsible for excretion and procreation; and *Vyāna* - causes the motion of the blood and of body generally.

Despite the inaccurate knowledge in physiology, India evolved a developed surgery from very early times. Bone-setting reached a high degree of skill and plastic surgery was developed far beyond anything known elsewhere at the time. Ancient Indian surgeons were experts in the repairing of lips, ears and nose lost or injured in the battle or by judicial mutilation. In this respect, Indian surgery remained ahead of European until the 18th century, when surgeons of the East India Company used to learn the art of rhinoplasty from Indians.

The existence of microscopic forms of life was not unknown at the time of Śuśruta, but it was not realized that these might cause disease. A true idea of antiseptic surgery or asepsis was lacking but scrupulous cleanliness as they understood it was practiced and the therapeutic value of fresh oil and light was recognized.

Śuśruta recognizes six modes of diagnosing disease, using the five senses (*Pañcha-indriya*), that is, by hearing, smell, taste, sight and touch, and by questions:

षड्विधो हि रोगाणां विज्ञानोपायः। तद्यथा पञ्चभिः श्रोत्रादिभिः प्रश्नेन चेति।
स्पर्शनेन्द्रियविज्ञेयाः शीतोष्णरसलक्षण कर्कशमृदुकठित्ववादयो ज्वरशोफादिषु।⁶

Śuśruta Samhitā deals with a variety of surgical conditions (diseases or conditions best treated by surgery). In course of the overall progress of the

human race it is quite natural that science and art of surgery have expanded into many different branches or speciality or super speciality. The study of Śuśruta can better be done speciality wise.

In orthopaedic surgery, Śuśruta's contribution was unique at his time. He recognized different varieties of fractures or *Kaṇḍa Bhagnam* (twelve types) and dislocation or *Sandhi Mukta* (six types). Although the classification he mentioned are no longer followed at the present time it is surprising that he could recognize so many varieties of fracture and dislocations without any system of imaging such as X-Ray, Computerized Axial Tomography (CAT), Ultrasound Scanning, Magnetic Resonance Imaging (MRI), presently employed. These imaging systems have not only revolutionized the whole process of diagnosis today, but the basic science of anatomy, physiology and patho-physiology are now much better understood. The descriptions given in the ancient text of the symptoms and signs of fracture and dislocation are not invalid although not used as much at the present time.

Śuśruta mentions several types of fracture and dislocation to be given up as hopeless. These are - (i) fracture of the pelvic bone; (ii) dislocation of the pelvic joints; (iii) compound fracture of the thigh bone or of the flat bone; (iv) fracture into small pieces of the frontal bone or its dislocation; (v) simple fracture of (a) breast bone, (b) back bone, (c) temporal bone and (d) cranial bones. At the present time, most of the above mentioned fractures and dislocations can be treated with success. But the injuries of the cranial bones (temporal or other cranial bone) and spine (back bone) can still be incurable if they are associated with brain or nerve damage. Damage of the brain, that is, neuronal damage, transection of the spinal cord or a major nerve are still a challenge today. Neuronal damage in head injury remains the cause of highest number of death rate among young people (18-35 years) being involved in R.T.A. (Road Traffic Accident) throughout the world.

In treating various fractures and dislocations, it is observed that nutritive and constructive food and drinks consisting of boiled rice, meat soup, milk, ghee (clarified butter) and soup of *Sātina* pulse were given to the patient. Immobilization of fracture site was done by the method of external fixation only. The barks of trees, for example, *Uḍumbara*, *Madhuka*, *Aśvattha*, Bamboo, *Vaṭa* or *Śāla*, were used as splint. Plastering of fracture was practiced but the 'plaster of Paris' or plaster of resins used now a days were unknown. Instead, *Manjishṭhā*, *Madhuka*, red sandalwood and *Śālī*-rice with *Śata-Dhauta* ghee (clarified butter washed one hundred times in succession) were used for plaster.

Śuśruta advises us to use *Āru* or *Parimantha* (awl) to perforate bone in disease of the medullary canal caused by obstructed and deranged air. In his

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method, one end of a hollow tube was introduced through the hole made on the bone and the other end of the tube was used for sucking out the bad material. The suction was applied by mouth. In principle this is accepted in modern science. In acute osteomyelitis, holes are made over the metaphysical end of long bone by drill to allow drainage of infected fluids. Abscess in a bone is drained by making holes and the abscess-cavity is curetted.

For the relief of pain various washings of the affected part were used, for example, a cold decoction of the drugs of *Nyagrodhādi*, milk boiled with the drugs of the *Pañcha-mūla* (minor), oil known as *Chakra-taila* made luke-warm, cold lotions or medicinal paste (*Prudehas*) of *Doṣa*-clearing drugs were also used. Modern analgesic are abundant in variety like Aspirins, Paracetamol, Ibuprofen, Phenyl Butazolidine, Diclofenac, Cox-2 (cyclo-oxygenase inhibitors) inhibiting the causative prostaglandin synthesis at the site of pain, Morphine, Dimorphine, Pethidine, Buprenorphine, Pentazocine, and Tramadol. They are the products of advancement in pharmacological science.

Similarity with the modern time is observed in treating many fractures and dislocations. For instance, by reduction and immobilization, a lower limbs fracture patient was made to lie down on a plank or board (fracture-bed) and fracture site was immobilized using several pegs or stakes. Thomas's splint is used now with similar effect. But some methods of treatment are really puzzling. In case of a fracture of one of the rib-bones (*Parśuka*), the patient was lubricated with ghee. He was then lifted up (in standing posture), and the fractured bone was rubbed with ghee. Strips of bamboo or some pad (*Kavalikā*) was placed over it. Then the patient was made to lie in a tank or cauldron full of oil! A fracture occurring in the upper part of the body was advised to be treated by application of *Mastiṣka śīro-vasti*, which was oil-soaked pad on the head. Oil was also pored into the cavity of ears!

Treatment of fracture and dislocation by 'internal fixation' using metallic plates and screws, intra-medullary nail, wiring and joint replacement surgery were unknown. Nowadays, joint replacement surgery rewards a new life to the sufferer of a damaged joint (for example, hip or knee), following an injury or a disease like Osteoarthritis (OA), Rheumatoid Arthritis (RA), Tuberculosis (TB) or Cancer. Joint replacement surgery is successful in shoulder, elbow, wrist, small joints of fingers and thumb, knee and hip. The latter two (knee and hip) have become popular due to progress in the implant and technological advancement in surgical technique. Spinal surgery makes scoliosis completely correctable saving the victim from the curse of a deformed body. Various congenital deformities, for example, club foot, spina bifida, cleft palate, limb length discrepancy are treated more efficiently. Improvement in artificial limb

enables the victim of a lost limb to lead almost a normal life, earning his/her own bread. At present surgery has become more and more safer and efficient as a result of remarkable advancement in anaesthesia, blood transfusion service, maintenance of nutrition (Total Parenteral Nutrition), antibacterial, antiviral or antiprotozoal agents (for example, antibiotics and chemo-therapeutics), implants and prosthetic material, endoscopy and keyhole surgery. Physical medicine and occupational therapy potentiate this success. In fact, the basic sciences of physics, chemistry and mathematics with biological sciences have progressed tremendously from its very primitive stage at the time of Śuśruta, some 2500 years ago. Anaesthesia, as practiced today - either general, spinal, epidural or local - seems to be unknown in ancient India. But Śuśruta mentions that "wine should be used before operation to produce insensibility to pain. It is desirable that the patient should be fed before being operated on":

प्राक्शस्त्रकर्मणश्चेष्टं भोज्येदातुरं भिषक् ।

मद्यपं पाययेन्मद्य तीक्ष्णं योऽवेदनासहः ॥⁷

There were well-established hospitals for man and animals during the time of Śuśruta, and even before him. Śuśruta gave directives regarding the hospitals and the patients. The Hospital house should be situated in a wholesome locality free from draughts and not exposed to the glare of sun, and clean. Surgical patients, that is, those who need surgery for cure from tumor, wounds, inflammatory swelling, etc., should be confined inside such a house from the beginning of their illness. In each room, the bed of the patient should be soft, spacious and well-arranged and the patient should be able to lie comfortably and turn his sides at pleasure. The patient should lie down with his head pointing towards the East. Some weapons should be available for his own protection. He should have dear friends by the side of his bed and their sweet words should relieve his pain. Female friends, however, should be avoided. He should observe strictly the orders of the surgeon regarding his food, drink and modes of living. He should have his hair clipped and nails paired short, be pure in his person, put on white clothes and devote himself to religious duties. A light should be kept burning; and garlands of flower, weapons, etc., should be provided in the room.

The physicians and the priests should attend the patient morning and evening. Pastilles made of *Sinapis Nigra* and *Azadirachta Indica* with ghee and salt should be burnt in the room morning and evening for ten days continually. The inflamed part should be fanned with a *Cāmar*. Sleep during the day, exercise and sexual intercourse must on no account be indulged in.⁸ Śuśruta describes many surgical instruments and a list of the appliances required in

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surgical operation can be found in the text, for example, blunt instruments, sharp instruments, cautery, *Śalākā* (rods) and horns. He also mentions qualities of good instruments and their uses. The table for operation and fracture-bed used in case of fracture of lower limb (*Kapāṭa-Śayana*) has also been described. Śuśruta rightly considers the surgeon's hand as the principal instrument among the one hundred and one varieties of blunt instruments. Because every surgical operation is under its control and without its help no instrument can be properly used. This implies that he stressed on adequate training (apprenticeship) to achieve success in surgery.

Looking through the list of the surgical instruments it becomes apparent that piles, fistula-in-ano, hydrocele, stricture of urethra and rectum were treated successfully using *Nāḍīyantra* or tubular instrument. A variety of sharp instruments are found in the list. Different types of knife, for example, *Maṇḍalāgra* or round headed knife, *Mudrikā* or finger knife, *Utpalapatra* or a knife like the petal of a lotus, *Ḳarapatra* or saw, *Vṛddhipatra* or razor, *Sūcī* or needles, *Śurarīmukha*, *Antarmukha* (variety of scissors), *Kuṭhārikā* or axe, *Āru* or awl, are some of them.

Among the blunt instruments, various types of cruciform instruments or *Svastikayantra* have been described, for example, *Simhamukha Svastika* (lion forceps), *Kākamukha Svastika* (crow forceps) and *Ulūkamukha Svastika* (owl forceps). There were also *Sandarśa* or pincer-like instruments.

Bone lever, that is, instrument for levering fractural bone into its proper position has also been mentioned by Śuśruta. In case of fracture of nasal bone, a *Śalākā* was used as bone lever for raising the depressed fragment. Śuśruta used *Eṣaṇī* or metallic probe to ascertain the course of fistulous track and also to raise a bridge of skin covering the sinus so that incision can be made over it to open it. This method is still being followed nowadays. Śuśruta recommends a thread smeared with caustics or *Kṣāra sūtra* to be inserted into the fistulous tract for its healing. A similar method is still practiced by using non-absorbable suture material.

Śuśruta describes fourteen varieties of bandages to be used on different occasions. Cloths made from plant fibres, cotton, wool, silk, leather and inner bark of trees were used to make the bandages. Leather bandage in the form of *Gophaṇā* was used for deep cut (more than half of the diameter) of the limb, following resetting the parts of the wounds, the bone and soft tissues being kept in position and wound being sutured and well dressed. This bandage (*Gophaṇā*) was also used in rectal prolapse, after being well smeared with ghee and being fomented and reduced by gentle pressure.

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In conclusion it can be said that Śuśruta's contribution to the science and art of surgery was unparalleled in the early years of its development. It is on this that modern surgery has acquired its strong base.

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Buddhism in Maṇimēkalai

SUKLA CHAKRABARTI

Buddhism wielded supremacy over various religions during 400-600 A.D. in Tamilnadu. The theory of incarnation, the bhakti cult, the concept of self-surrender, the creation of devotional hymns and the construction of the chētiyas (i.e. temples) earmarked the early phase of Mahāyāna Buddhism which in course of time admitted a number of Hindu gods and goddesses in a transformed character—ultimately leading to the sole worship of Ādi-Buddha, the father of the Universe. Bodhidharma, a Pallava prince of Kāñci founded Dhyāna-Buddhism that inculcated the various modes of meditation and concentration to attain eternal bliss. The Buddhologists are of the opinion that to his preachings zen Buddhism in China and Japan owed its existence. Though references to the worship of Buddha offered by all the members of the family are available in Maduraikkāñci (450-467), the Buddhist devotional poems of Saṅgam period are not available at present. A number of poems in adoration of Lord Buddha, and the Bodhisattvas like Avalokiteśvara dwindled into oblivion by the ravages of time and damages of vedic religions. Some scattered devotional lyrics are preserved in the commentaries of Yāpparuṅkalam and Vīracōliyam, though the early specimens are available in the Buddhistic Tamil epic, *Maṇimēkalai*.

Maṇimēkalai is an epic poem of 30 chapters (*Kātais*), presenting the life story of Maṇimēkalai (the daughter of Kōvala- through Mādavi) who renounces worldly life for Buddhist asceticism and gets initiated as a nun after doing acts of charity and getting enlightenment with the divinities aiding her. This long poetical work brings alive the Buddhist ethos as it developed on Tamil soil in the cities of Kāvīrippūmpaṭṭi-am, Vañci and Kañci with contacts overseas in Southeast Asian islands, in the pre-Pallava era.

There are many similarities between the Mahāyāna Buddhist text *Gaṇḍavyūha* and *Maṇimēkalai*—the emphasis on the ideal called *dāna pāramitā*, the charitable act of feeding the hungry; the representation of key concepts in the form of characteristics like wisdom and enlightenment in Aravaṇa Aṭikaḷ, the teacher of Maṇimēkalai, (corresponding to Mañjuśrī in the observance of religious practices) and in Āputtira- (corresponding to Sāmantabhadra) and pursuit of liberation through Buddhism of Maṇimēkalai herself (like Sudhana Kumāra), and a profusion of supernatural events in which leading characters fly in the air while deities speak of past and future events and guide them. A special feature of *Maṇimēkalai* is its exposition of Buddhist logic in its

chapter 29, setting out two kinds of cognitive authority (*pratyakṣa* and *anumāna*) and fallacies (*ābhāsas*). From the literary point of view, *Maṇimēkalai* ranks after *Cilappatikāram* in its narration punctuated with lively descriptions which rise to heights of pictorial beauty and passages of devotion impressive in the sonorous march of their solemn addresses to the Buddha.

Devotional Elements in Maṇimēkalai

The devotion to Buddha reached its zenith during the days of Sāttanār. Not only mortals (men and women) but also the gods and godlings paid homage to the Buddha. Those, who worshipped Buddha spoke out of his acts of generosity and miracles, with great excitement and devotion. They circumambulated Buddha thrice and prostrated before him on the ground (*Maṇ.*, IX, 5-8, XI, 26). With hands folded and raised above their heads and with pearl like tears stealing down their cheeks, they worshipped Buddha (IX, 2-4). It was also the custom to garland Buddha. They sang the many names of Buddha that revealed his greatness and adored him. In *Maṇimēkalai* there are certain portions that are nothing but hymns on Buddha. Buddha *stotras* are abundant only in the Mahāyāna works. Between 200-700 A.D. many *stotras* of Buddha saw the light of the day. Sāttanār, as a devotee of Buddha has written certain sections of his epic *Maṇimēkalai* as hymns. Some specimens of them are presented here.

Hymn-I

mārunai vēllum vīra ninnadi:

(Hail holy feet of the hero that conquered Māra)

tīneRik kaṛumbahai kaṛindōy ni--aḍi

(Hail holy feet of Him who destroyed the evil path)

piRarkkaRam muyalum periyoy ni--aḍi

(Hail holy feet of the Great one, labouring to set others in the path of virtue)

Hymn-II

i LavaLa nāyiRU tō-ḍRiya te--a

(You appeared like a glorious rising Sun)

nīyo to-ḍRi-ai ni--aṛi paṇindēn:

(At your feet & offer my worship).

pūmisai ēTRi-e....

(I have seated you on my blossomed heart) (X, 11-15)

Names and Appellatives of Buddha

The names of Buddha given in the epic *Maṇimēkalai* are myriad. A mere compilation of the names will result in a hymnary of names (*Nāmāvali*). Such

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a hymnary of names to Buddha is found only in the Mahāyāna texts. Buddha is the Omnipotent God Himself. The names and appellatives of Buddha, used by Śāṭṭa-ār are presented hereunder.

I. Buddha is the Origin (First) and the Head of all things and beings. Therefore He gets the following appellatives:

1. Ātimudalva-, VI; II; X, 61; XII, 37, 107; XXIX, 23.
2. Āticālm-iva-, VII, 10.
3. Mudalva-, XXV, 58; XX; VIII, 120.
4. Ma--uyir mudalva-, XXV, 117; XXIX, 15.
5. Mu--ava-, XXVII, 141.
6. Tollōn, XI, 64.
7. Nāda-, XI, 173-4; XII, 101-2; XXVI, 47; XXVIII, 77, 89, 144; XXIX, 24.
8. Talaiva- (with Bodhi), XI, 43; XV, 26, (with Dharma), XI, 30; XII-55.
9. Purāṇa-, V, 98.
10. Aṇṇal, XXVI, 53.
11. Eṅgō-, XI, 126; V, 71.

It seems from the above references, that Śāṭṭanār tends to theistic view, a phase of Mahāyāna Buddhism. Winternitz observes that *Kāraṇḍavyūha*, a Mahāyāna Sūtra, relates how, at the beginning of all things Ādibuddha, also called Svayambhu or Ādinātha, appeared and created the world through meditation. Ādimudalva-, Ādi Buddha or Ādinātha and Ādipahava- (in Kuraḷ) seem to be synonyms and convey the theistic concept of *Kāraṇḍavyūha*. Pahava- of Kuraḷ clearly denotes the Buddha in *Maṇimēkalai* (III, 161; XXVIII, 174).

II. In the Buddhism of *Maṇimēkalai*, the Buddha occupied a supreme place like the Brahman in Vedānta. The epithets 1. Periyava-, XXV, 54; 2. Periyō-, XXVI, 66; XI, 63; XXI, 128 and 3. Perumaka-, XXV, 62. semantically correspond to the Sanskrit word Brahman.

Three Bodies of the Buddha

The system of Buddha's Tri-kāya is a salient feature of Mahāyāna Buddhism, where we find countless Buddhas. Buddha has three bodies or three distinct natures living in three spheres at the same time. They are the Dharmakāya the Sambhoga kāya and the Nirmāṇakāya. We can adduce references from *Maṇimēkalai* to state that Śāṭṭa-ār should have known this system of Trikāya.

1. Dharmakāya

In Nirvāṇa, as Dhyānī Buddha He assumes the abstract body of absolute purity in the Dharmakāya state of essential Bodhi (knowledge). *Suvarṇaparibhāṣā* (200 A.D.) a Mahāyāna text, describes the Dharmakāya as follows: ‘...As there is neither bone nor blood of Buddha’s body, for the completely Enlightened Tathāgatha has only a Dharmakāya and consists only of the Dharma element, i.e. he has only an immaterial body consisting of the absolute and he is composed only of ideas, of spiritual (non-sensual) phenomena.’ Śāttanār clearly signifies the Dharmakāya by the epithet ‘Tiruvaramūrtti’ (XXX, 6), the body of the sacred Dharma. Its synonymous forms may be identified in the following occurrences.

1. Arattakai mudalva- : XXVIII, 120 (The Lord of Dharma)
2. Aravō-, VII, 4; X, 1; XII, II; XXVIII - 210; (The Embodiment of Dharma)
3. Taruma talaiva-, XI, 30; XII, 55 (The chief of Dharma).
4. Puṇṇiya-, V-90 (The possessor of the Dharma).

II. Sambhoga—kāya

In reflex in the Rūpadhātu heavens as Dhyānī Bodhisattva, He assumes the body of supreme happiness in the Sambhoga-kāya state of reflected Bodhi. It is the radiant and super human form in which the Buddha appears in the paradise or when otherwise manifesting himself in celestial splendour. Śāttanār records the Buddha of Sambhoga-kāya, residing in the paradise Tushitaloka surrounded by the celestials (XII, 72-4; XXX, 8-14). The name ‘sugata’ connotes the Buddha of supreme happiness. The *Pramāṇa Samuccaya Dignāga* pays homage to this ‘Sugata’.

III. Nirmāṇa—kāya

On the earth, as Mānushi-Buddha He assumes the Nirmāṇa-kāya, which is material, visible and perishable. Having passed through innumerable transformations on earth, he arrived at the Nirmāṇa-kāya state of practical Bodhi. The compassion to mankind compels the Buddha of Sambhoga-kāya to descend from the Tushitaloka and to assume the Nirmāṇa-kāya on the earth. The celestial beings also request him to be born on earth to redress the grievances of mankind and to guide them to salvation. Śāttanār explains how this incarnation of Buddha takes place (XII, 72-4; XXIX, 8-14; XXVI, 42-53). The Sambhogakāya and the Nirmāṇakāya correspond to a deity such as Viṣṇu and his incarnation Kṛṣṇa. All Buddhas of Nirmāṇakāya must be born only at Kapilavastu (XXVI, 42-46) and will be doing penance to know reality. Non-

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violence and patience preventing retaliation are the chief qualities of the Buddha in penance. Possessing such noble qualities, Buddha practised self-restraint and concentration during his penance. Therefore Buddha wins the following appellatives from Śāṭṭa-ār.

1. Peruntava mu-iva-, VIII, 61.
2. Piṇippaṟu Mādapan, XXI, 16; XXV, 34.
3. Māyamil mādava-, XXI, 48.
4. Ulakanō-pin Uyarntō-, V, 99.
5. Āriya-, XXV, 6.

Meditation or penance is often disturbed by the enemies within, viz. lust, anger and delusion. Unless these are eliminated totally, enlightenment is impossible. Śāṭṭa-ār in the following lines, states that Buddha freed himself from the 'three roots of evil' viz. lust, hatred (anger) and delusion.

1. 'KuTRam keṟuttōy šeTRam ŚeRUttōy', V, 100.
2. 'KuTRa mū-ḍRum muTRavaRukkum vāma-', XXX-3.
3. 'dīneRik kaṟumbahai kaṟindōy', XI, 62.

To root out the three evils Gautama practised the perfection of Vīrya, the supreme of all pāramitās. Hence he gets the epithet 'Urayō-' (XII, 11). Without sense-control meditation is impossible. Gautama conquered his senses and got the names 'Ci-a-' and 'Cinēntira-' (XXVII, 81; XXIX, 47) which are also found in *Buddhacarita*, Book XIV, verse 74. Māra tried very much to disturb the Buddha doing penance under the Bodhi tree. But he could not tempt and disrupt the meditation of Buddha. Māra got defeated at the hands of Buddha and ran away. By spiritual vigour Buddha conquered Māra. He earned the name Bodhisattva-the spiritual warrior. Śāṭṭa-ār mentions these ideas in the following contexts. (*Bodhisattva*, XI, 43, 173-4; XII, 101-2; III; XV, 26, 29; XXI, 46-7; XXVIII, 141-2, 172-4; XXIX, 24; XXX-10)

The conqueror of Māra (V, 102, 77; XI, 61; XXX, 11): As soon as he conquered Māra he became the Buddha (the Enlightened). He was omniscient (XXV, 45; V, 101). He was the embodiment and essence of wisdom (X, 84, XII, 78; XX, 5; V, 98; XXII, 45). Hence the following epithets suit him; 'Poduvār-ivikaḷndu Pulamuṟumādava- (X, 84) Perarivāḷa-, Pulava- (XX, 5; V, 98), Muṟṟa uṇarnta mudalva-' (V, 101).

Buddha—The Sun

Buddha who got enlightenment under the Bodhi tree, shone in all brilliance. The light that emanated from him penetrated even hills and illuminated all the places. Śāṭṭa-ār states that the Sun of Buddha dispelled the darkness of

sins by emitting and radiating its rays of charity (XXI, 165-167). All the Mahāvāna texts praise Buddha as the 'Sun' itself.

Aśvaghoṣa also often compares Buddha to the Sun. One of the Buddhas is known by the name Vairocana, which means the sun. Śānta-ār uses the very expression ‘Buddha nāyīru’ (i.e. Buddha-The Sun) to praise Buddha (XII, 86, 76; X, 10-11; XXI, 167, XXVI, 46).

Sir Charles Eliot attempts to explain the reason for comparing Buddha to the Sun.

‘The stream of foreign religions, which flowed into India from Bactria and Persia, about the time of the Christian Era, brought new aspects of sun-worship such as Mithra, Helios and Apollo and strengthened the tendency to connect divinity with light. And this connection was peculiarly appropriate and obvious in the case of a Buddha, for Buddhas are clearly revealers and light-givers, conquerors of darkness and dispellers of ignorance’.

But it is proper to think that the ancient Tamilians are the worshippers of nature, especially the Sun, as evidenced by the early Tamil works. Thus the Tamilian Śāṭṭa-ār inspite of his being a Buddhist, might have worshipped Buddha, identifying Him with the Sun.

Buddha—The Physician

The vigorous and authoritative character of Buddha led him to regard all mankind as patients, requiring treatment and to emphasise the truth that they could cure themselves, if they would try. In *Saddharma Puṇḍarika* (chapter XV; Gatha 21) the Buddha calls himself as the Physician.

Śāttanār calls Buddha as ‘Piravippiṇi maruttuva-’ (IX, 61) one who cures the illness of birth. In Saddharma Puṇḍarika, Chapter V, another reason is given to call Buddha, a physician. There is an especially detailed parable, in which the human beings are compared to persons born blind, whose eyes are opened by Buddha, the great physician.’ Śāttā-ār expresses this explanation briefly as follows : ‘kaṇṇiṇaraku aḷikkum kaṇṇoy’ (XI, 66). One blind man cannot show the way for another blind man. Those who do not have enlightenment glowing within them, are blind people. Such people are enveloped by a thick mantle of ignorance. By redeeming such people from the darkness of ignorance, by giving them the light of wisdom, Buddha becomes the light giver and a great physician.

Śatta-ār calls Buddha 'Aṛavālī Aḷvon' (VI, II, X, 51) i.e. the ruler of the wheel of the Law. He always turns the wheel for the purpose of maintaining justice, law and order everywhere.

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Śāṭṭa-ār's description of certain other qualities of Buddha are worth mentioning. Buddha's Gospel is Truth (XI, 68). His ears are closed to the malefic words (XI, 57). He preaches the Dharma to one to all (XI, 63; XXI, 170). He lives not for himself, but for the welfare of others (V, 72-73). He is the saviour of all (V, 102). He goes even to the Hell to deliver the sinners (XI, 69). He rooted out the grief of the Nāgas (XI, 70). His doctrine is grace, compassion and protection of all beings (III, 59-62). He is the essence of all good qualities (V-71). He is the embodiment of purity (V, 98). Because of all these virtues, Buddha shone with divine beauty. The Tamilians worshipped God as 'Beauty' (the embodiment of divine beauty). True to that tradition, Śāṭṭa-ār finds Buddha as an embodiment of divine beauty. He calls Buddha as 'Vāma-', he who has the supreme beauty. (V. 77; XXX, 13).

These epithets and appellatives are sufficient to conclude that the worship of Buddha was popular in the days of Śāṭṭa-ār and many divine poems on Buddha should have appeared during his time.

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A note on Some Recently Discovered Sculptures from West Bengal

BIMAL BANDYOPADHYAY

As a measure to prevent illegal trade on antiquities the Central Government promulgated the Antiquities and Art Treasures Act, 1972 which came into effect in 1976. For an effective control on the Export of antiquities Expert Advisory Committees on export of non-antiquities are formed in various offices of the Archaeological Survey of India which also examines objects placed before it for determining whether they are antiquities. Thus the committee in the Kolkata Circle of the Archaeological Survey of India has examined various objects in recent years intercepted by various government agencies like Customs department, Postal Customs, C.B.I., West Bengal Police and Kolkata Police etc. In the course of such examinations several exceptional antiquities have been noticed. In this monograph some of the sculptures are discussed.

An elegant image of Viṣṇu has been seized by the Customs Preventive Unit, Ranaghat, district Nadia presented before the committee in June 2003. This chlorite image (42×21×7cm) represents Viṣṇu standing in *samapādasthānaka* posture on a *viśvapadma* placed over a pedestal on the stela. The god is flanked by his consorts, Lakshmī and Sarasvatī on his two sides who are holding their usual attributes. The four-armed image holds, left upper *chakra*, lower conch, right lower is *varada* and the mace is held in the right upper hand. He is richly ornamented, a crown and an elongated *mukuta* adorns the head. The oval back slab is marked by ornamentation, on top are flying Gandharvas in low relief. The image, fortunately undamaged is an exquisite piece of sculpture and can be dated to c.9th-10th century AD on stylistic grounds. Provenance of this image is uncertain, perhaps it found its way from neighbouring Bangladesh (Plate-II).

An outstanding discovery, perhaps of the decade has been made by the Police of Sagardighi Police Station under Lalbag sub-division of Murshidabad district by intercepting a clandestine deal. Sagardighi village is well known for its antiquarian remains and occasional discovery of significant antiquities are reported. Mention may be made about the acquisition of three outstanding metal images of Viṣṇu found from the vicinity of Sagardighi in the museum of the Vangiya Sahitya Parishad.¹ This hoard is unique of its kind because out of twenty metal objects seventeen nos. represent miniature sculptures in bronze of various deities. The sculptures, though in general badly corroded

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and damaged represent exquisite works of metal art of a fairly early period. We propose their date within the time frame of c. 7th-8th century AD on stylistic features depicting various early characteristics.

The sculptures can be broadly categorised in three groups, i.e. (i) images of Hindu divinities, (ii) images of Buddhist divinities and (iii) unclassified images. Among the images of Hindu divinities four are of Gaṇeśa, two are of Viṣṇu, an image of Maḥiṣāsura-mardīnī, one a standing male deity, possibly Sūrya, as seven vehicles are discernible. The images of the Buddhist pantheon, six in number, are all of goddesses and can be identified as those of Tārā, five in seated postures and the remaining one in standing posture. The unclassified images, three in number, consist of female divinities in standing posture.

The images of Gaṇeśa are in a better state of preservation, however the struts connected with the back slab are mostly broken. Only the parabolic back slab in a partly damaged condition is available in one image (Plate-III). The images are quite small. The biggest one (Plate-IV) has the dimension of 6×4×2.9 cm. Others are smaller. The deity is represented in his four-armed form holding usual attributes sitting in *lalitāsana*. The entire composition displays simplicity of form and early features.

The images of Viṣṇu, two in number, show the god standing in *samapādasthānaka* posture. In one such image (6×3.5×1.7 cm) he stands over a lotus seat placed over a plain pedestal. He is flanked by his consorts on both sides who are slightly leaning to the outer side of the back slab, an early feature. The parabolic back slab is connected with the main figure with struts. He is four-armed, left upper broken, lower indistinct, right lower *varada*, while the upper holds a lotus (Plate-V).

The other image (7.9×3.5×2 cm) is in a better state of preservation. The god stands in strictly frontal pose over a lotus seat placed on a simple pedestal. He is flanked by his consorts on both sides holding usual attributes, however the musical instrument (*vīṇā*) in the hands of Sarasvatī is interesting. Viṣṇu is four-armed, holding right upper mace (?), lower indistinct, left lower conch (?) and lotus bud in the left upper. Parabolic back slab is connected with the main figure with the help of struts. A miniature figure of the vehicle of the god (Garuḍa) placed at front of the pedestal. The entire composition is marked by simplicity (Plate-VI).

The image of Maḥiṣāsura-mardīnī (6.3×5.5×1.5 cm) is badly corroded, yet the act of killing the buffalo Titan is discernible, on the lower part of the frame the couchant lion can be noticed. The attributes in the hands are not distinct.

The back slab, with which the figure is connected with the help of struts is partly damaged. The overall composition displays simplicity of form, archaic characteristics and reminds about the image of Sarvānī from Deulbadi in Bangladesh dated towards the end of the seventh century AD (Plate-VII).

The standing two-armed image of Sūrya (9×4×3.4 cm) is another noteworthy sculpture. He is standing erect over a *viśvapadma* holding a lotus bud in the upraised right arm while a full blown lotus stalk is held in the left hand. The pipe like parabolic *prabhā* is connected with the figure, a lotus bud is surmounting it. A cap like crown adorns the head. The lower part of the pedestal contains miniature figure of horses while the charioteer sits in the front. This figure is also marked by the simplicity of form and can be compared with the early sculptures in metal from Nalanda and elsewhere (Plate-VIII).

The images of Buddhist goddesses, six in number, being products of the same period display cognate characteristic features, particularly discernible is the archaic composition and expression. One image possibly of Tārā (7.2×3.5×2.8 cm) depicts the divinity in a standing posture, others seated either in *vajrāsana* or *lalitāsana*. In three images the back slab mostly a simple one is connecting the figure with the help of struts. The lower garment in the image mentioned above like a gown is noteworthy (Plate-IX). In another image (8×4×3 cm) the goddess sits in adamant pose showing *varada* in right hand while a lotus issuing from stalk is held in the left hand. Facial expression of the goddess is charming (Plate-X). Out of the other two images devoid of back slab, one (5×3.5×2.5 cm) represents the goddess seated in *lalitāsana* on a cushion seat over a circular pedestal. She is two armed, right one touching knee in *varada* while the upraised left arm holds a lotus stalk. This elegant composition displays matured work of art (Plate-XI). The remaining image (5×3×3 cm) displays the goddess seated in an upraised seat over a circular pedestal, her right arm is in *varada* and the upraised left arm though damaged possibly holds a lotus. A conical crown adorns the head. In the physiognomy stiffness is noticed and this image can be compared with the early images from Nalanda and Jhewari in Bangladesh (Plate-XII). The Buddhist images can be identified as those of Tārā.

The three unclassified images, all in standing posture undoubtedly represent some female divinity, possibly the Buddhist goddess Tārā. One of them (8×3.5×1.9 cm) shows the standing goddess in a strictly frontal pose, body slim and elongated. The right arm is broken below forearm while a lotus bud (?) is held in the left arm (Plate-XIII). Two others are (7×2.5×1.5 cm) of similar type, in one of them only body is less elongated, the right arm is possibly in

A note on Some Recently Discovered Sculptures from West Bengal

varada while the left one holds a lotus bud. Another one (6.3×2.5×1.2 cm) is of similar type, in this the figure is more clear, a light flexion of the left leg suggestive of movement is to be noticed (Plate-XIV). In these figures the disproportionate big faces and other characteristics mark the archaic character pointing to an early date.

Remaining three objects in the hoard consist of a metal *linga* on a Gauripaṭṭa, a decorative metal plaque and a Bāla-Gopāla image in metal. Out of these the metal plaque is an early object while the remaining two are of a later date.

An outstanding acquisition has been made by Ramnagar Police Station in East-Medinipur district. It is an image of Śiva (15.5×7.6 cm) in gold seated on a metal bull placed over a pedestal (Plate-XV). The image has been reportedly found from the sandy shores of Digha region and handed over to the Police Station. No claimant was found therefore it could not be determined how the image found its way there.

The exquisite carved image in gold, a very rare specimen depicts Śiva in his three-faced and six-armed form. He is seated in *lalitāsana* over his vehicle, a bull in stone which is placed over a carved pedestal with a spout. Perhaps the pedestal is not original. The front face is extremely lively and placid. While the face on right side of it bears same features, that on the left side has goggle eyes but is not fierce looking. The third eye is at the centre of forehead, a beautiful hair band is on the crown. The elaborate matted hair has a crescent Moon towards top right. An oval *prabhā* with border of flames is placed at the back of head. In his six arms the god holds, right upper *akṣamālā*, a vessel in the extended arm and a trident in the front one while a *khaṭṭāṅga* is in the left upper, an *aṅkuśa* in the next hand and a *kapāla* in the frontal left hand. He is elaborately ornamented and wears a *yajñopavīta*. The image is a fine example of metal art depicting mastery of the artist in delineating sublime form.

This form of Śiva, a rare one, is not generally met with. However, some such three-faced images in stone have been noticed in Bengal and three are kept at the Museum of the Varendra Research Society, Rajshahi, Bangladesh.² Two such images in stone in the Museum of the Vangiya Sahitya Parishad, Calcutta can also be compared with it.³ They have been classified as images of Sadāśiva, the highest and the supreme being, worship of which is based on the Āgamic Sadāśivatattva. Worship of Sadāśiva was very popular in Bengal under the Sena rulers and image of Sadāśiva was used as the royal emblem.⁴ This image in gold under discussion bears cognate attributes and thus can be identified as an image of Sadāśiva of the twelfth century AD.

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List of Plates

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Exotic Buddhist Images from Early Bengal: Their Sociological Significance.*

P. K. BHATTACHARYYA & BEDASRUTI BHATTACHARYA

It is interesting to notice that a free and frequent interchange of deities took place among the important religious systems of India. Accordingly, Hindu divinities such as Pārvatī Ambikā, Indra, Lakṣmī, Sarasvatī have been adopted as Jaina deities. Similarly Buddhist deities like Mahācinatārā, Jāngulī, Vajrayoginī were incorporated in Hindu pantheon under the names of Tārā, Manasā and Chinnamastā respectively. The Jains and the Buddhists alike used to borrow Hindu gods in their earlier stages, but in the Tantric age, as suggested by B. T. Bhattacharyya,¹ Buddhist gods were commonly exploited. Thus the Buddhist images discovered in Bengal, Bihar and Assam are mostly the product of the Tantric school of the Buddhists.

The *Sādhanamālā* refers to the four sacred places (*pīṭhas*) of the Vajrayoginists, namely Kāmakhyā (Assam), Śrīhaṭṭa (Sylhet now in Bangladesh), Purnagiri (not properly identified) and Uḍḍiyāna (i.e. village Vajrayoginī in Vikramapura, Bangladesh). The earliest manuscript of the *Sādhanamālā*, dated 285 Newari Era i.e. 1165 A.D., refers to the place Uḍḍiyāna as having special importance because of the temple of Vajrayoginī. Thus in the early medieval period when Tantras flourished, Vaṅga and Samatāṭa were the two important centres of culture of Bengal, wherein Vikramapura rose in the limelight of the Buddhist World under the Candras. Atīśa Dīpaṅkara, the eminent Buddhist Scholar and master of Tantric lore, belonged to the royal family of Vikramapura. It has rightly been suggested by Bhattacharya² that from the Vaṅga-Samatāṭa area radiated different streams of culture to the rest of Eastern India.

The *Sādhanamālā* also pointed out that Uḍḍiyāna is connected with the *Sādhanā* of Kurukulla, Trailokyaśaṅkara, Mārīcī and Vajrayoginī. Bhattacharya³ also noticed that numerous Vajrayāna images like Jambhala, Paṇṇasavarī, Vajrasattva, and Tārā were discovered from Vajrayoginī. In fact, it appears that Tantricism of the Buddhists originated in Uḍḍiyāna-Vajrayoginī and 'thence was transmitted to the rest of India.'⁴ The flourishing period of this form of Buddhism ranged from the 10th century A. D. till the conquest of Bengal by the Muhammadans.

* The paper was presented at the International Congress on Bengal Art held under the auspices of the society of Bengal Art, Dhaka and Directorate of Archaeology, Govt. of West Bengal at the Asiatic Society, Kolkata, 2001.

After the destruction of the Buddhist centres of eastern India, the priests of the celebrated monasteries of Bengal and Magadha who could save themselves, fled to Nepal which is protected on all sides by the mighty Himalayan ranges. They took refuge in that country, and thus kept the torch of Buddhism still burning there. The Bengal school of art which was carried by the priests was soon modified into a typical Nepalese art when it came in contact with the native artists, and thus became stereotyped. It is, however, curious to note that the origin of almost all monasteries in Kāthmāṇḍu, Bhātgāon and Lalitpatan dates from the 13th century.

Under this perspective let us have a fresh look towards the exotic images which were produced under the influence mainly of Vajrayāna school of Buddhism. The idea of syncretism among different parallel religions of India is not an alien concept in Indian history. Under its impact a number of syncretistic images were produced not merely among the Brahmanical deities, but the Brahmaical and Buddhist ones also. Buddha came to be regarded as one of the ten *avatāras* of Viṣṇu by the 9th century A.D. at least from the time of Śūrapāla I,^{4a} a son of Devapāla and successor of his brother Mahendrapāla. Fredrick M. Asher draws our attention to a syncretistic image described as Buddhist image of Śiva from south east Bengal of the 8th century A.D.⁵

In the succeeding centuries, however, we witness a large number of Buddhist images, like Aparājītā, Parṇaśavarī, Trailokyavijaya, Prasanna-Tārā, etc. evincing sectarian ill-will and rancour. The historians, art-historian in particular, are baffled to explain why the principal Brahmanical deities like Brahmā, Viṣṇu, Śiva, Gaṇeśa and others have been shown in most humiliating positions in the Buddhist pantheons.

It is, however, interesting to notice that we have not come across any Brahmanical image showing disrespect to the Buddhist counterparts. In the words of Bhattacharya 'it is a matter of great satisfaction that the Hindu never disgraced any gods belonging to alien faith in the manner the Buddhist did.'⁶

Among the Brahmanical religions there was a concerted effort to put an end to the sectarian ill-feelings and the *Pañcāyatana* worship in which the principal deities of five Brahmanical cults like Vaiṣṇava, Śaiva, Gāṇapatya, Saurya and Śākta were objects of veneration, was a positive step towards this direction. But inspite of this effort for reconciliation we come across images like Gaṇapati-Vāhanodbhave-Viṣṇu as noticed in the sculptures from North Bengal,⁷ or Śarabha avatāra of Śiva punishing Narasimha for persecuting Hiraṇyakaśipu, a devotee of Śiva, etc.⁸

The various Brahmanical deities remaining in attendance or being trampled

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upon by the Buddhist gods and goddesses as described in various Buddhist texts may be presented in the following tabulation :

1. Aparājītā	Gaṇeśa;
2. Parṇaśabarī	Gaṇeśa or represented with the fleeing Hindu god Hayagīva and goddess Sītālā;
3. Vighnāntaka	Gaṇeśa;
4. Hari-Hari-Hari Vāhanodbhava- Lokeśvara	Viṣṇu;
5. Vajrajvālānālārka	Viṣṇu;
6. Vajrahūmkāra	Śiva;
7. Kāla-cakra	Śiva and Anaṅga;
8. PrasannaTārā	Brahmā;
9. Hevajra	Brahmā, Viṣṇu, Śiva and Mrityu;
10. Vidyujjāvalākarālī	Viṣṇu, Brahmā, Śiva and Indra;
11. Daśabhujā Māricī	Viṣṇu, Brahmā, Śiva and Indra;
12. Ubhayavarāhānā	Viṣṇu, Brahmā, Śiva and Indra;
13. Vajra-vārāhī	Śiva and Kālarātri;
14. Sambhāra	Śiva and Kālarātri;
15. Trailokyavijaya	Śiva and Pārvatī.

It may also be mentioned here the multi-headed Buddhist deity made of bronze, now preserved in Indian Museum, Calcutta, having multiple arms and four legs. Two of the legs are in dancing posture, while the other two trample upon Śiva and Pārvatī. Śiva with a snake canopy is seated to the right, while Pārvatī to the left. A snake with an upraised hood appears by the side of Pārvatī while possibly Gaṇeśa kneels down beside her. The main deity wears a garland of skulls and in his four front hands, he holds male and female warriors with drawn swords ready to strike.

From the above discussion it, however, appears whenever a religion or a cult loses its appeal to the masses, the influence over which depends the successes or the failures of that religion or cult, it inevitably has had resort to the creation of such *ugrumūrti* or hostile images whether among the Brahmanical or Buddhist religions. These images however, cannot be branded as mere hostile images or images as bearing ill-feelings of one sect to the other but in fact should be treated as protest of the one cult against the more influential cult of the region, or when the adherents of a particular cult are relinquishing their own cult and opting for other more influential cult in great numbers and thereby jeopardising their very existence.

Now let us illustrate the matter a little further with the prevailing social system in Bengal towards the close of early medieval period.

The *Bṛhad-dharma Purāṇa* and the *Brahma-Vaivarta Purāṇa* (*Bṛhma-Khaṇḍa*, Ch X-XI) composed not earlier than 12th century A.D. contain indications reflecting the peculiar social problems in early medieval Bengal. Sections XIII-XIV of Part II (*Uttara-Khaṇḍa*) of the *Bṛhad-dharma Purāṇa* inform us that one king Veṇa violated the rules of *Varṇāśrama* and deliberately created a number of mixed castes by forming the unions of males and females belonging to different castes. We can, however, trace the history of the origin of mixed castes from a remote antiquity. But the theoretic framework of four-fold caste system continued to influence the mind of the people of India. Even though, as late as 8th - 9th century A.D. *Gauḍapati* Dharmapāla enjoined upon the people belonging to four-fold *Varṇas* not to deviate from their respective assigned path (cf. *śāstrārtha-bhājā calato anuśāsyā varṇān pratiṣṭhāpayatā svadharme*/V. 5, —the Mongyr copper-plate of Devapāla-9). Devapāla's records, however clearly show that warfare was no longer the close preserve of the Kṣatriyas, but people from different strata of society including such tribes as Khaśa, Kulika, Hūṇa, Lāṭa, etc. actively took part in it.

Under these circumstances, we would like to make a thorough probe into the emergence of the theory of amalgamation of the *Varṇas* and the rise of two-fold caste system in place of the traditional *Caturvarṇas* (four-fold ones).

The Brāhmaṇas became soldiers, rulers, administrators and counsellors and followed other vocations.¹⁰ Kaivarttas served as high officials.¹¹ The Karaṇas practised medicine and military arts¹² and the dāsas served as officials and court poets.¹³

In the opinion of R. C. Majumdar¹⁴ the origin of this Veṇa fiction is to be traced to the extended significance given to the term śūdra in the Purāṇas, where it denotes the members of the fourth caste and also those members of the three higher castes who accepted the heretical religions or were influenced by Tantric rites. 'The predominance of Buddhism and Tantric Saktism in Bengal, as compared with other parts of India, since the 8th century A.D. perhaps explains why all the notable castes in Bengal were regarded in the *Bṛhad-dharma Purāṇa* and other later texts as śūdras, and the story of Veṇa and Pṛithu might be mere echo of a large-scale reconversion of the Buddhists and Tantric elements of the population into the orthodox Brahmanical fold.'¹⁵

The above social phenomena explain adequately why the Buddhist religious preachers have had resorted to the practice of putting the principal Hindu deities in low profile in comparison with the Buddhist pantheon, thereby attempting

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to foster a sense of superiority in the mind of the ordinary people - the peasants and others who desire to relinquish Buddhist faith and embrace Brahmanical religion.

It will not be out of place to mention here that the greater part of decline of Buddhism took place after the end of the Pāla period and before the coming of the Muslims towards the end of the Brahmanical Sena dynasty. Again the society the Senas created was one in which caste differences were emphasised and upheld, in which multitude of state officials flourished at the expense of both the peasantry and the merchants, all of whom were relegated to the status of śūdra. It is possible as suggested by Trevor Ling¹⁶ that the latter (i.e. merchants) were traditionally prominent supporters of the Buddhist Saṅgha and in the changed situation stoppage of subvention from their erstwhile patrons and also from the peasantry would inevitably have had the effect on the decline of Buddhism.

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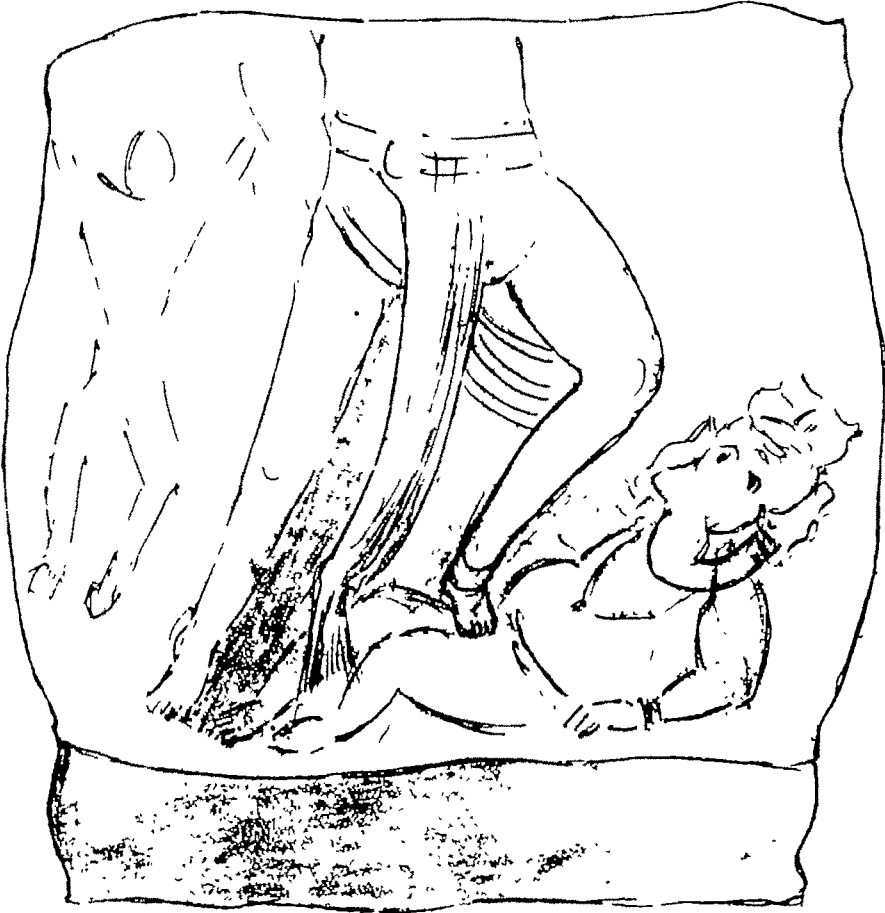
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7. cf. 'Two Exotic Sculptures from North Bengal : Their Sociological Significance' by P. K. Bhattacharyya in *Journal of Bengal Art*, (ed. Enamul Haq) Vol. 2, Dhaka, Bangladesh, 1997, pp. 141 ff.
8. cf. Gopinath Rao, *Elements of Hindu Iconography*, Madras, 1914, Vol. II, Pt. I pp. 172-74; also J. N. Banerjea, *Development of Hindu Iconography*, Calcutta, 1956, Vol. XXXIV. Besides we notice an image of Śiva slaying *Matsyāvatāra* of Viṣṇu, see Fredrick M. Asher, *Indian Temple and Sculpture*, London, 1959, p. 245; or Brahmasīraschedana image of Śiva, see Gopinath Rao, op. cit., Vol. I, pt. I, pp. 175-76.
9. R. C. Majumdar (ed.), *History of Bengal I*, p. 626; also cf. The Mongyr C. P. of Devapāla, v. 5.
10. cf. The Badal Pillar Inscription of Devapāla and the Belava Copper plate of Bhaṭṭa Bhavadeva mention the families of Kedāramiśra and Bhaṭṭa Bhavadeva respectively.
11. Divya Kaivartta as royal official, see the *Rāmacarita* of Sandhyākaranandī.

12. Cf. R. C. Majumdar (ed), op.cit , pp 585 ff.
13. Cf Bhatera copper plate of Īśāṇadeva (Ep. Ind. Vol. XIX, pp 277 ff).
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15. Loc cit
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Plate-I

Aparājītā :

From Nalandā, Indian Museum and Akshaya Kumar Maitreya Museum,
N.B.U.



Drawing By Anirban Banerji Class B.Sc. (1st Yr.)

Plate-II



Prasannatārā

Plate-III

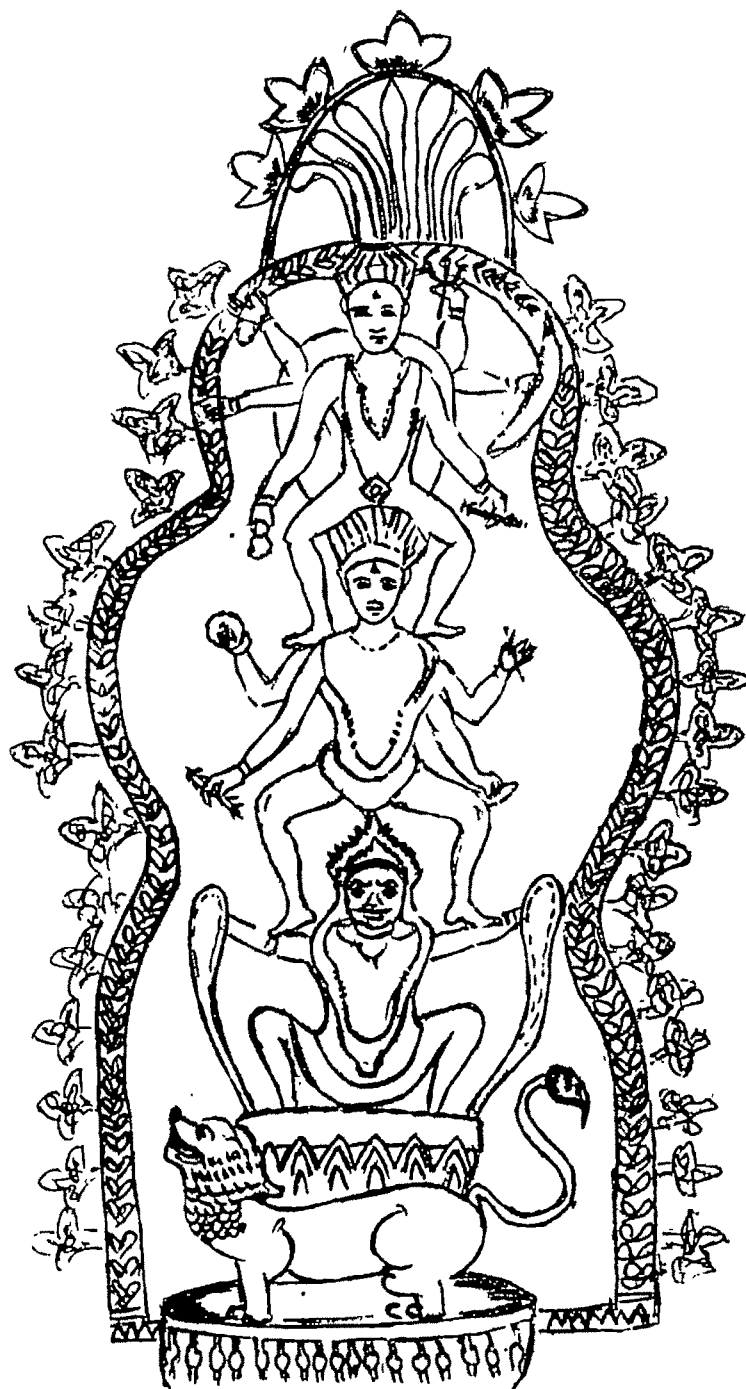
Parnaśavarī : On Gaṇeśa or Fleeing Hayagrīva and Śītālā from Nepal.



Drawing by Anirban Banerji, Class B.Sc. (1st Yr.).

Plate-IV

Harī-Harī-Harī-Vāhanodbhava-Vajrajvālā-Nalārka from Patan, Nepal.



Drawing by Anirban Banerji, Class B.Sc. (1st Yr.).

Plate-V

Kālacakra (Nepal).



Rain Invoking Ceremonies of Bengal

BARUN KUMAR CHAKRABORTY

The women of the Rajbansis of North Bengal namely Darjeeling, Jalpaiguri, Coochbihar, Rangpur (Bangladesh) worship one who is supposed to be the Rain-god named Hudma, Huduma or Hudum Deo. It is assumed that the very word 'Hudum' has been derived from 'Udom' which means naked. In other words the Rain-god Hudum Deo is imagined to be a naked one. The women folks organise this ritual during the drought, with the intention to satisfy the Rain-god Hudum Deo so that he can make sufficient rainfall. The ritual is performed during night. When there is shortage of rain, it is believed that the Rain-god has been aggrieved. In order to have sufficient amount of rainwater, the Rain-god has to be satisfied. This is possible if the women folks display their naked body before him as religious offering.

In Dinajpur this ritual is known as 'Jalmanga'. In some parts of the Jalpaiguri district, this is known as 'Jalbhuka'.

Hudum Deo is a kind of community worship. It is never performed by any single member of the women folks. This ritual is a combination of singing, dancing and acting. Sex appeal is very prominent in all the three different art forms related to this ceremony. No male member is allowed to witness this performance nor he is allowed to participate. If this taboo is not followed, the purpose of this performance becomes meaningless. The whole presentation loses its magical power. It is needless to mention that Hudum Deo is related to agriculture. It is an imitative magic in nature; sufficient rainwater is required for sufficient amount of crops. So Hudum Deo is worshipped for agricultural purpose. The text of the songs sung during the worship of Hudum Deo is obscene.

On the twelfth day of the bright moon, the Indra-pūjā is celebrated in many parts of Purulia. Locally this worship is known as *Ind* or *lid pūjā*. This festival is exclusively meant for the kings, Zamindars and the landlords. Of course the common folks take part in the celebration and abundantly share in the delight. On the Rādhāṣṭamī day, two Shal trees are felled. One is worshipped in the household and the other is worshipped in public. The tree, selected for the household worship is not less than two hands and a quarter in length, but the tree selected for worship in public is usually forty to fifty hands long. This tree is kept outside the household in an open field. The responsibility of collecting the trees lies on 'Khira' or 'Shabar'. Khiras or Shabars collect the

necessary instruments for cutting the trees from the household of the worshipping landlords. They at first worship the goddess of trees, before striking them.

The collected trees should have some peculiarity, that is, they should have branches. A tree which is almost all stem is collected.

There is preparatory period on the part of the worshippers. For the last fifteen days before the commencement of *Ind pūjā*, the worshippers take vegetarian meals once in a day. The performers arrange certain preliminary ceremonies on the previous night of the *pūjā*. This is called 'Adhagachchi'. On the day of Adhagachchi both the Shal trees are placed slantingly on a peg made of same wood. On the other side of the peg is attached a wooden post which contains three indentations at the top. This indented piece of wood is known as 'Maosi Khuta'.

On the twelfth day of the bright moon both the Shal trees are dressed with new pieces of cloth. The 'Adhagachchi' and this worship are performed at first in the household. After the worship, five persons (which include the king, the queen, the priest and two members of the royal family) go round the Shal tree. After that the Shal tree is made to stand straight when the worship at home is over. The king and the queen lead a big procession on horseback towards the Shal tree placed outside the household and worship the same. During this time the king is found having arm in his hand. Others carry sticks, swords, spears and other weapons. The king and the queen go round the shal tree on horseback and after the worship the slanting tree is pulled up and it then stands erect. After the nine days, immersion ceremony takes place. Both the trees are immersed in a nearby pond. The immersion ceremony is done by the Shabars. The Khiras collect cloth which was used to cover the Shal tree. The folk belief is that one who possesses this kind of cloth with him will succeed in all matters. Paddy boiling, ploughing etc. remain suspended during the *pūjā*. Now the question is why is this *pūjā* done? This is done for the preservation of wealth and also to increase the amount of existing wealth. Here wealth denotes paddy and other corns. As a matter of fact *Ind pūjā* is held to have sufficient amount of rainwater and also to ensure rainfall timely.

In the 'Radh' area, particularly in the district of Burdwan a typical vow (one kind of religious practice of ascetical austerities in order to attain something) is observed, that is called 'Bhajo'. It is also known as 'Sas Patar Brata'. This vow is performed in order to ensure the production of sufficient amount of corns. This starts from the sixth day of a lunar fortnight in the month of Bhādra and continues up to the twelfth day of a lunar fortnight of the same month. Before this vow begins, the devotees start preparation for this. Pease,

Rain Invoking Ceremonies of Bengal

a kind of pigeon pea (Mug), chick pea, a typical variety of leguminous seeds yielding pigeon pea and one more corn, namely, Arahara, are placed in a plate within water and this is offered on the very next day in the worship of Śaṣṭhī, a female deity who protects human babies. Of course some amount of this mixture of five corns is mixed up with mustard seeds and dust caused by the rats. This is kept in a separate earthen pot. The devotees pour little amount of water daily on this after taking bath. This causes germination of the seeds. If germination of all the seeds takes place, it is assumed that the year would be prosperous by having plenty of crops. The pouring of water is continued up to the twelfth day of a lunar fortnight.

When the ritual ends, festival begins. That means on the next days of the lunar fortnight the devotees organize dance, music, etc. This is organised in moonlit night. This performance is presented in the courtyard. The devotees place their respective earthen plates on a dias made of mud. The organizers clean the dias first. Then they decorate it with 'Alpana' (painting with the liquefied pigment of rice powder). One of the motifs of this must be the symbol of thunder, the weapon of Indra, the king of gods. The devotees take part in group dance. This is performed around the dias. They also sing. This is known as Bhajo song. After the performance, at the end of the night the worshippers taking their respective earthen plates on their heads proceed towards the nearby pond for their immersion.

Indra the king of gods is also known as the custodian of rainfall. So he is worshipped so that he grants the prayer of the devotees and causes sufficient rainfall.

Mechheni is the most popular vow in the whole of North Bengal, particularly in the district of Jalpaiguri. This vow is observed in a befitting manner in Baisakh, the first Bengali month. All types of women—married, unmarried, aged, widow, underaged—all can participate in it. Baisakh is the first Bengali month when the farmers prepare themselves for plantation of Aman and Aus paddy, the first being the late autumnal crop of paddy while the second one is a kind of paddy which ripens in the rainy season or in autumn. Water is very much essential for growing crops and the river is the container of water. Tista is the principal river of Jalpaiguri. Mechheni is the goddess Tista. In other words the Tista is worshipped in the name of Mechheni. The Tista is worshipped in the first month of Bengal, Baisakh, with the intention of having large amount of crops. If the Tista is pleased the land will be fertile. Different phases of the vow Mechheni clearly indicate that this is closely associated with cultivation.

Megharanir Brata o Gan : When the first week of the Bengali month Baisakh

passes on without single drop of rain, even not a single patch of cloud is seen in the blue sky, farmers are sure to face drought, at that critical time daughters and the housewives of the farmers are seen with 'Kulo', a vessel made of bamboo slips for winnowing grains etc. Kulo, (Jalghat earthen pitcher with water) etc. are taken by them and they visit different houses, present songs, sometimes they take part in a dance. At last they pour water on the courtyard from the earthen pitcher. This symbolizes rain. Megharanir Brata is in vogue in Bangladesh. There is similarity between Mechheni and Megharanir Brata. The participants of the vow collect rice, oil vermilion, money, betel leaf, betel nut etc.

This sort of practice goes on either for three days or for seven days. Generally the only daughter of the parents have the legitimate right of bearing the Kulo on her head. When any such group reaches one house, the group is given warm reception. The females of the house receive the group cordially, uttering auspicious words. Besides, they are offered *piri*, wooden seats, to sit on. The group places the Kulo, Jalghat etc on this wooden seat and starts singing.

Hade lo Buin Megharani
Hat pao dhuiya phalao pani
Chhot Bhuite chin chinani
Baro Bhuite Hatu pani
Megharanir gherkhani patharer majhe
Hei bristi Lame lo Jhake Jhake.

This vow is being celebrated year after year. On the day of observation the devotees go to some open field and observe the vow under the supervision of an aged lady. No priest is required. This aged lady narrates the story of Megharani Brata. The devotees listen to it minutely. No image is worshipped in this vow, but a lump of sticky mud is worshipped which symbolises the river Tista. The peculiarity of this mud is that it is hard in dry state but soft and slippery when wet. This is placed in a basket made of bamboo. Mareyani, the leader of the vow, is the custodian of this lump of mud. After the worship she preserves a portion of it at her own residence. Year after year thus this same lump of mud is being worshipped. Some flowers, unboiled milk or curd, Atap rice (obtained by sunning paddy and not by boiling it), vermilion (mercuric sulphide) are placed over it. Then it is covered by a piece of white cloth. Mareyani takes this basket at her right side, she holds an umbrella over her head. The umbrella is made colourful. When Mareyani proceeds, the devotees follow her from behind in a group. Each of the devotees holds out Atap rice mixed with flowers and curd, in the lap of her loin cloth and pours it towards the moving umbrella. This is a clear picture of imitation of rain. The Atap rice mixed with

Rain Invoking Ceremonies of Bengal

curd denotes rain drops. The use of umbrella also signifies the presence of rain. Thus with the help of Homoeopathic magic the devotees invite rain to fall to water the land and to make it fertile. The first day of the year, paddy is sown. On this day a bunch of young paddy plants along with the plants of banana, jute, *kachu* (an esculent root), turmeric are sown at a corner of the land. After that ceremonial plantation five or seven paddy plants are sown. This shot of practice is known as 'Guchhibona', as several young plants are sown. The goddess of this ceremony is known as 'Guchhi Lakshmi'. It is believed that from the last day of the Bengali month Aswin, stalk of paddy appears. In the early morning of this day the owners of the house roam in the corn field and cite a typical rhyme. The rhyme expresses the desire of the owner of the house—rats, insects may no longer exist in the field. The goddess of the wealth is earnestly requested to fulfil the desire that all the paddy plants contain rice, big stalks are seen. The ritual which is thus performed is known as Dak and the goddess associated with this ritual is known as Dak Lakshmi. On the first day of the Bengali month Agrahayan, the paddy is collected first from the field. The mistress of the house is eligible to collect paddy first and not any male member of the family. The goddess of this performance is known as Aghan Lakshmi'. The mistress of the house before going to the field collects certain auspicious materials in a pot popularly known as 'dala', and proceeds towards the field along with other females uttering auspicious sound.

The mistress cuts the bunch of paddy plants with the help of the top of plantain leaf. It is done by the left hand of the mistress. At the time of cutting the paddy plant she recites a particular rhyme which expresses the desire of having abundant crops.

Kalar pate Bandi Dhan
Kati uthachu ghare
Bharia Aha Mage Dola beri
Bharia Aha gola ghare

After cutting of paddy it is kept in front of the house. Before keeping it, the place is made clean on the last day of the Bengali month Paus, Sticks of bamboo are buried on all sides of the heaped paddy. The sticks are joined by yellow coloured thread. Then the heaps of paddy are worshipped. After this worship, rice is collected from the paddy. The goddess of this ritual is Paus lakshmi. The mistress offers the prayer

Pitha dimo, mitha dimo
Dimo dudher kshir
Achel hayaya Ashis mage
More gharate this.

If we minutely observe we must be able to understand that Gucchi Lakshmi, Dak Lakshmi, Aghan Lakshmi, and Paus Lakshmi these four sisters are practically four different phases of paddy. The Tista is worshipped as Mechheni. She is considered to be the goddess of cultivation.

We the people of Bengal are by and large agriculturists. Our prosperity or poverty, everything depends on cultivation. If cultivation is successful, the farmers get back sufficient amount of crops as a result of their hard toil, they can have some comforts of life. Otherwise they suffer, suffer like anything. Science has progressed a lot no doubt. Advancement in genetic engineering has been remarkable. Agricultural science has developed beyond doubt. We can use modern equipments, manures, chemicals, fertilizers, even we are now in a position to have water for cultivation from reservoirs through canals. Deep tube wells have been installed for the same purpose. Still we have to depend on the mercy of nature for the success of our agricultural efforts. If nature smiles our farmers can also smile. That is why the farmer and their families largely depend on nature and not on modern science. If rainfall does not take place timely and sufficiently, drought becomes inevitable. Our cultural life also largely depends on agriculture. Our festivals, folk deities, different vows, rituals, are directly or indirectly closely associated with agriculture. We have certain rain invoking vows, fetivals or deities which are still in vogue, even in the 21st century to ensure rainfall timely and sufficiently which will enable us to have sufficient amount of crops.

If we minutely observe the rituals, offerings or performances presented in rain invoking, we shall notice the following features—

1. Typical physical gestures must be there for invoking the god of rain.
2. Females display their naked body to arrest the attention of and to please the god who is supposed to be the custodian of rain.
3. Performing arts like dancing, singing etc. must be there.
4. Imitation of rainfall is acted. In other words Homoeopathic magic is followed.
5. Females play more important role compared to male members of the society.
6. Rituals are generally observed at night and during the time of Rainy season.

Notes on The Mohanpur Rādhikā Image Inscription

RAJAT SANYAL

Mohanpur (21°50' N/87°29' E/384) is a village in the Mohanpur Police Station in the District of Paschim [West] Medinipur in West Bengal (see Map). The village is an already reported mediaeval site, famous for the *ekarātma* temple of Jagannātha situated in the western half of the village and dated, on architectural ground, to either late eighteenth or early nineteenth century.¹

During a field visit for a work on Jagannātha temples of Bengal we came across, in the sanctum of the Mohanpur temple, a small (44.8 cm) metal image of Rādhikā (Plate XVI). On a close scrutiny it was found that the underside of the pedestal of the image possesses five distinctly and efficiently engraved lines of inscription. The language of the inscription is Oriya and the script is dated on palaeographic considerations to c. sixteenth-seventeenth century.² The inscription (Plate XVII) reads:

- L 1. 105³ Phaguṇa Mā 7⁴
- L 2. se⁵ Vāre-Vī(Vi)krama Kra
- L 3. ra-Mā(Ma)hāpātra Caudhū(dhu)
- L 4. rī[II*] Kāmīlā (or Kāmīla)⁶ Vandhu
- L 5. Mā(Ma)hāraṇā⁷ [II*]⁸

Translation

On the seventh day of the month of Phālguna, [? *] day, (the image of Rādhikā has been caused to be made under the patronage of) Vikrama Kraramahāpāta Caudhurī. The artisan (or craftsman) is Vandhu Mahāraṇā.⁹

If some of the contents of the Mohanpur epigraph are critically analyzed, in combination with allied historical and legendary sources, the record may serve the purpose of an ethno-historical (*epigraphic* to be precise) evidence in order to reveal some of the social issues bearing on caste and caste hierarchy in mediaeval Bengal.

Fifteenth-sixteenth century political history of Orissa is dominated by the Sūryavaūśī Gajapatis.¹⁰ That the Gajapatis came into direct conflict with the Bengal Sultans, obviously owing to close proximity of the two lands through the Daṇḍabhukti region, is proved by Gajapati epigraphic records.¹¹ The influence of Orissan political and cultural traditions in mediaeval Bengali life, particularly in the southwestern parts of the Delta, is now established by a highly contextual discovery of a copper plate inscription of the mightiest Gajapati king Kapileśvaradeva, dated in his 24th regnal year (c. 1459 AD),

from Belda (22°05' N/87° 20'E) in West Medinipur District of West Bengal.¹² This epigraph bears the first direct testimony of Gajapati supremacy over that section of southern West Bengal from where the present image inscription hails.

The inscription clearly refers to the modelling of the Rādhikā image under the direct patronage of a person named Vikrama Krara-Mahāpātra Caudhurī. It is interesting to note that the Mohanpur Jagannātha temple is presently a *devottara* (colloquial Bengali for Sanskrit *devadāya* meaning 'gift made in honour of a god or shrine') property of a neighbouring family whose names end with Kar-Mahapatra (claiming Orissan Brāhmaṇa descent).

The Kar-Mahapatras of Mohanpur assertively claim that the temple of Jagannātha was constructed under the patronage of their ancestor Paraśurāma, whose ancestors migrated to Bengal from Puri in Orissa. The genealogy of this family¹³ places a person named Mr̥tyuñjaya *Kroḍī* as the grandfather of Paraśurāma and further claims Mr̥tyuñjaya to have been an administrative chief (in the army staff) of Mukundadeva, the last Gajapati king of Orissa. Local oral history also glorifies the claim. It is known from other sources that Mukundadeva was killed by an insurgent named Rāmacandra Bhañja, soon after 1568 AD, when Sultan Sulaimān Karrānī of Bengal attacked Orissa and held sway over the Gajapati dominion of Utkala.¹⁴ Now, if the genealogical statements—not appearing altogether baseless—are taken into consideration, Paraśurāma must be placed around late sixteenth or early seventeenth century. It may be relevant here to reiterate that the present inscription is dated, on the grounds of palaeography,¹⁵ to the same period of time. In that case it is tempting to identify Vikrama Krara (or Kraḍa?)—Mahāpātra Caudhurī, the consecrator of the image under discussion, with either the nephew of Mr̥tyuñjaya or a contemporaneous kin (possibly a brother/cousin) of Paraśurāma, whose direct descendants either did not like to include or somehow omitted his name in their genealogical table.¹⁶ Thus, the historical context of the inscription is quite conspicuous.

The most significant information contained in the Mohanpur image inscription is its reference to the surname 'Krara-Mahāpātra'. It has already been stated that Mr̥tyuñjaya was styled with the epithet *Kroḍī*. But what is the exact meaning of this term? Islamic literary sources suggest that *Krorī* was an official post of territorial administration created by the Mughals for the smooth running of their revenue organization. Nizām al-Dīn Āhmad Bakhshi defined a *Kror* as that segment of a *Parganāh* which yielded an annual income of one crore and the official in-charge of such a segment of landscape was designated as a *Krorī*. The epithet Caudhurī, enjoyed by Vikrama, was also an administrative post related to Mughal land revenue system.¹⁷

Notes on The Mohanpur Rādhikā Image Inscription

Three dimensions of the above set of sources deserve careful attention. First, the legend that the ancestors of Kar-Mahapatras of Mohanpur migrated to Bengal from Orissa with Mahāpātra ancestry should have some historicity. The phenomenon is also demonstrated through their close association with the cult of Jagannātha and Kṛṣṇa. Secondly, members of this family used to hold highly privileged administrative designations, possibly in Government of the contemporary Bengal Sultans. The legend prevalent in the region that Mr̥tyuñjaya was an officer of Gajapati Mukundadeva has possibly no historical merit, for there is hardly any evidence that the Gajapatis ever created such administrative post as Krorī and Caudhurī in their structure of polity. Finally, if the word 'Krara' in Vikrama's surname derives from Krorī (or Kroḍī) at a particular point of time—and this is linguistically a quite justifiable derivation—then the empirical suggestion that becomes obvious is that the surname Krara-Mahāpātra, enjoyed by Vikrama of the present inscription, was a combination of two general terms applied to two Oriya and Bengali (Islamic) caste and/or occupation groups. The elitist status of these people in the class hierarchy of mediaeval Bengal is aptly vindicated by the title Caudhurī enjoyed by Vikrama.

If the above hypothesis is accepted, one has to believe that the present Kar-Mahapatra lineages of south-southwestern West Bengal are possibly the descendants of mediaeval *Kroḍī* class of administrative officers, who migrated from Orissa with their Mahāpātra ancestry and were subsequently absorbed in the territorial Islamic bureaucratic structure. In such a case, the phenomenon may also be taken as a satisfactory example of cultural infiltration of socio-political practices in two contiguous 'culture-areas' and may serve the purpose of first-hand source for the study of social proxemics¹⁸ in the mediaeval Indian context.

The second point that may have some significance, in the context of internal patterns of social mobility in the system of caste hierarchy of mediaeval Bengal, is the mention of the term *kāmilā/kāmila* in our record. This word is a corruption of Sanskrit *karmakāra* and Bengal *kāmin* meaning 'a doer' or 'a builder' i.e., 'mason.'¹⁹ Names of builders/masons of shrines are frequently found in mediaeval temple inscriptions of southern Bengal with the prefix *kāminā*, *kāmila*, *kamila*,²⁰ thus clearly highlighting the nature of their occupational specialization. But curiously enough, the present inscription refers to the *kāmilā* named Vandhu mahāraṇā (notably, *mahāraṇā* was a class of mediaeval Orissan carpenters) as the maker of the metal image and not the temple. An inscription on the pedestal of an image of Sarvamaṅgalā at Keshiari (22°06' N/87°14' E/106) in the same District also refers to a *kamila* named Raghupātra.²¹

Evidences of the Mohanpur and Keshiari image inscriptions clearly show that *kāmila* does not signify any specific class of artisans. This and its local variants are general terms denoting a broader group of craftsmen who specialized in masonry, metal carving and also woodcrafts. The name of the *kāmilā* Vandhu Mahāraṇā may suggest that though he was a carpenter by the ascribed status of his caste, he nonetheless took to metal carving and achieved the status of a *kāmilā* by virtue of his craft expertise. It may be pointed out in the conclusion that a thorough and critical study of the various categories of Oriya inscriptions found from different parts of West Bengal may be highly rewarding for the reconstruction of some aspects of social and cultural history of early mediaeval-mediaeval Eastern India.

References:

1. David J. McCutcheon, *Late Mediueval Temples of Bengal*, Calcutta, 1993 (reprint), p. 42. See also, Tarapada Santra, *Purākīrti Samīkshā: Medinipur (i.e. Medinipur: An Archaeology Survey, in Bengali)*, Calcutta, 1987, p. 139 and D. R. Das, Rajat Sanyal and Sharmila Saha, 'The Temples of Jagannātha in Bengal' (forthcoming).
2. See below n. 4.
3. The figure 105 undoubtedly denotes a particular year of an unspecified era about which nothing can be stated definitely. Probably the scribe has inadvertently omitted a digit in the hundredth place, which could have served the purpose.
4. The digit 7 at the end of l. 1 is identical absolutely to those found in Orissan palm-leaf manuscripts of c. sixteenth-seventeenth centuries. This type of numerals is known as the *brāhmaṇīyā* numerals (now extinct), those currently used are called *karuṇī* (personal communication with Dr Snigdha Tripathy).
5. The scribe has somehow made here an omission about the name of the weekday.
6. Several other derivatives of this word like *kāminā*, *kāmila* and *kumila* are found in the Sarvamaṅgalā temple inscription at Bhabanipur (Keshiari, West Medinipur), dated to 1604 AD, the Śyāmcānd temple inscription at Dharapat (Bishnupur, Bankura), dated to 1603 AD and the Bishnupur Sahitya Parishad Museum [temple foundation] inscription (Bishnupur, Bankura) of 1610 AD. For more details, consult A. K. Bhattacharyya, *A Corpus of Dedicatory Inscriptions from Temples of West Bengal (c. 1500 A.D. to c. 1800 A.D.)*, Calcutta, 1982, pp. 60-63.
7. Mahāraṇā was a class of Orissan carpenters of mediaeval period.
8. I am highly indebted to Dr Snigdha Tripathy, Epigraphist (retd.) State Museum, Bhubaneswar, who not only read the inscription, but also provided valuable suggestions for the study of early mediaeval-mediaeval palaeography of Orissa.

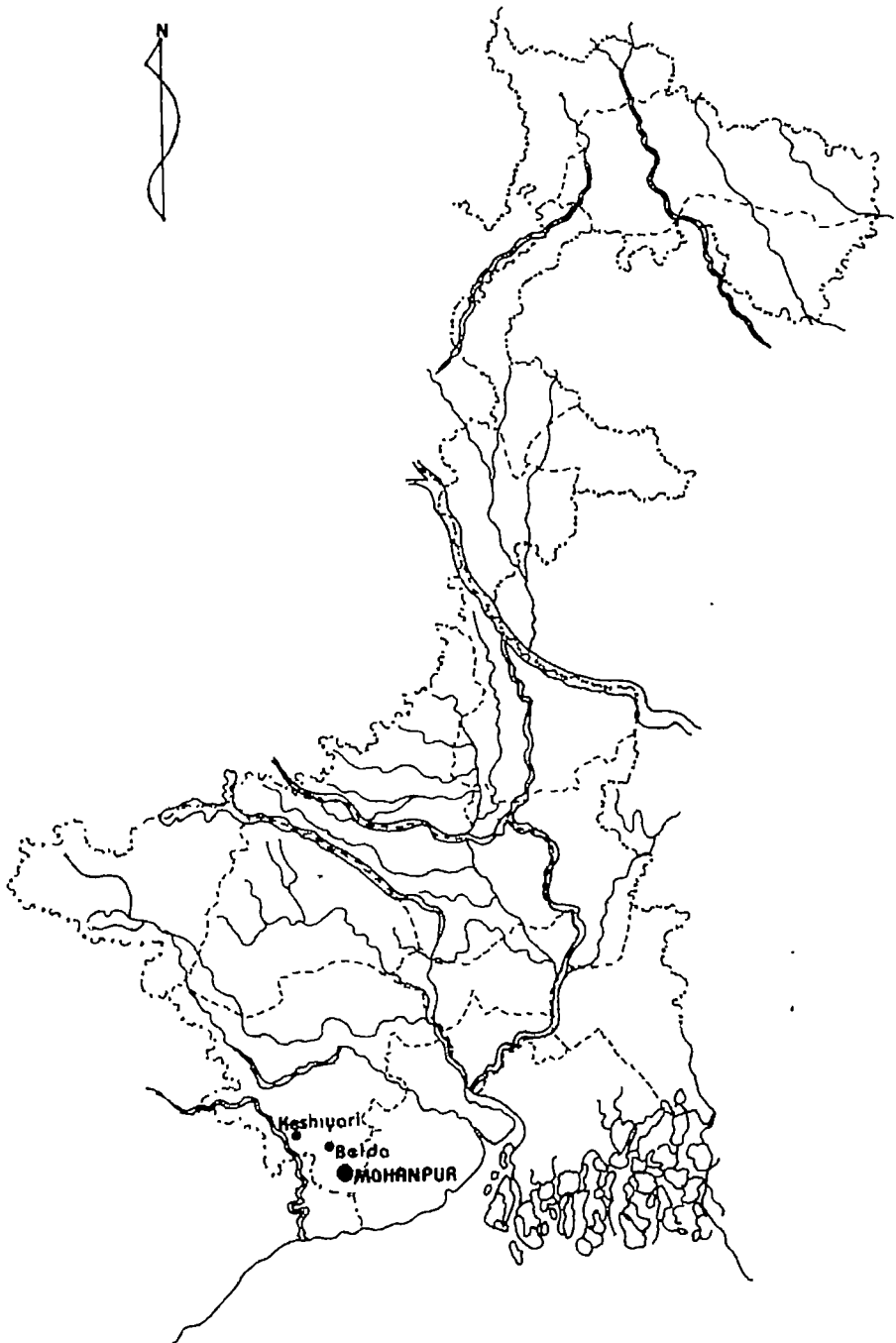
Notes on The Mohanpur Rādhikā Image Inscription

9. Responsibility of any error in the translation is mine.
10. For details, see K. C. Panigrahi, *History of Orissa*, Cuttack, 1971.
11. R. Subramaniam, *Inscriptions of the Sūryavaiśī-Gajapatis of Orissa*. Delhi, 1986, p. XVI.
12. Rajat Sanyal, 'Two Recently Discovered Inscriptions from West Bengal' *Journal of Asiatic Society*, XLVIII/2, 2006, pp. 91-104.
13. This genealogy, composed in early twentieth century, is still preserved with the Kar-Mahapatras of Mohanpur.
14. K. C. Panigrahi, *op. cit.*, pp. 242-43.
15. See above n.9
16. Das, Sanyal and Saha, *op. cit.*
17. A. M. Rahim, 'Parganah, Āmil, Shiqdār, Krorī, Amīn and others', in A. B. M. Habibullah, ed., *Nalini Kanta Bhattasali Commemoration Volume*, Dhaka, 1966, pp. 24-60. However, Rahim's suggestion on the basis of mediaeval literary sources that the *Krorī* system was not implemented in Bengal and Orissa deserves, in the light of the present record, more intensive investigation.
18. Proxemics may be anthropologically defined as the study of the distance individuals [and groups] maintain between each other in social interaction and how this separation is significant. For an excellent collection of works on the theme, see Ruth Tringham, ed., *Territoriality and Proxemics: Archaeological and Ethnographic Evidence for the Use and Organization of Space*, Massachusetts, 1973.
19. A. K. Bhattacharyya, *op. cit.*, p. 25.
20. See above n. 6.
21. A. K. Bhattacharyya, *op. cit.*, p. 62.

List of Plates

Plate XVI—The metal image of Rādhikā in the sanctum of the Mohanpur Jagannātha temple.

Plate XVII—The inscription dated in the year 105, underside of the pedestal of the image.



Map Showing Major Epigraphic Sites Cited in The Text (Not to scale)

Studies in the Origin of Historical Traditions (As found in the Aṣṭādhyāyī, Mahābhāṣya and Arthaśāstra)

RAMA CHATTERJEE

In the introductory part of the dissertation 'Rhapsodists of Early India', (JAIH, Vol XII, Pts 1-2, 1983-84) we have cast a great deal of light on the words *Itihāsa* and *Purāṇa* as well as on their inter alia meaning. The method of their reconstitution was also studied with a view to finding out their recognition in separate texts, which started functioning in distinct branches, viz, the *Itihāsa* and the *Purāṇa* in the age of the Sūtra literature.

Within the limit of this short article, we are inclined to trace the meaning of the *Itihāsa* and the *Purāṇa* and how far their scope as a class of literature extended since the time of Pāṇini upto the age of Kauṭilya's *Arthaśāstra*. We have come across enough evidences that give an outline of the separate existence of the knowledge of historical traditions in two distinct branches of learning, i.e. *Itihāsa* and *Purāṇa*. Two rules, nos iv, 2, 59 and iv, 2, 60¹ in the *Aṣṭādhyāyī* of Pāṇini confirm formation of the words, viz, *Aitihāsika* and *Paurāṇika*, which are mentioned as illustrations in explaining the above Sūtras. i) The former rule guides application of suffix *aṇ* (iv, 1, 83) to a *prātipadika* denoting some 'subject of study' in relation to one, 'who has studied that'. The affix is added to a word in accusative case during its formative stage and the word refers to a person who studies or knows that, e.g. *Chāndasaḥ*, one who studies prosody, *Vaiyākaraṇaḥ*, 'one who knows grammar' and so on. (ii) The next *sūtra* bars application of *aṇ* to those *Prātipadikas* which denote the name of a sacrifice and to the word *uktha* and also to a word ending with *sūtra* whenever the sense is applied in indicating one 'who has studied that' or 'understands that'. In the second case, the affix *ṭhak* is the substitute for *aṇ* in forming the words like *Aitihāsika* and *Paurāṇika*. These are terms signifying persons who study or understand the subjects, viz., *Itihāsa* and *Purāṇa*. The matter is vividly clarified in Patañjali's *Mahābhāṣya*, which elaborates Pāṇini's rules in regard to the formation of words concerning *Ākhyāna*, *Ākhyāyikā*, *Itihāsa* and *Purāṇa*. When they are added with the affix *ṭhak*, they denote persons 'who study or know them'.² If the *Itihāsa* and the *Purāṇa* had not been treated as separate branches of learning the very question of knowing or understanding of the *Itihāsa* and the *Purāṇa* as subjects of study would not have arisen at all. What kind of knowledge they represented during the time of the great grammarians? Let us examine the separate commentaries made by Kaiyaṣa in *Pradīpa* and by Nāgeśa in *Uddyota* in respect of Patañjali's

bhāṣya on the above mentioned rules (iv, 2, 59-60) of Paṇini. They stated the sense of *Itihāsa* as represented there in the following words : (i) *Iti śabda upadeśu-pāramparye vartate. Itihāsyate'sminniti-Itihāsa, halaśca iti ghañ, mayūravamiśakādītvāt samāsataṣṭhak.*³ (ii) *Upadeśaparamparayā ākhyānādīnīyasyante sthāpyante' tretiārtha kaścid. Itihāsa* is a subject advised by the preceptor to his disciples and thus a traditional channel of teachers and disciples is formed to maintain a cultural complex and to develop the knowledge concerning past events (*upadeśa pāramparye vartate*). That is why we find that the texts known to be *Itihāsa* contain diverse topics of true incidents of the past. The *Mahābhārata* itself, which is the greatest example of *Itihāsa*, defines the subject in a single verse. *Dharmārthakāmamokṣāṇāmupadeśa-samunvitam / Itivrttam kathāyukta-mitiḥāsaḥ pracakṣate*. Similarly, the sense of the Purāṇas as depicted in the Vedic literature, had been broadly developed in the subsequent ages. The distinct category of this work was defined on the basis of their required growth, which contained events of precreation stages as well as of creation of the universe during the Vedic age. Consequently, they developed miscellaneous characteristics later. We are told that a *Purāṇa*, generally, must have five characteristics, (*Purāṇam Pañcalakṣaṇam*).

The *Mahābhārata* and its shorter form entitled *Bhārata*, both being classed under *Itihāsa*, are separately mentioned in the Kauṣītaki and the Āśvalāyana-gr̥hya-sūtras.⁵ It appears that their compilation started functioning before the above mentioned age. Thus, *Itihāsa* as a separate subject of study may be taken to be well known before the time of Paṇini. Description of actual events of the past (*ākhyāna*) governing a requisite knowledge came to be incorporated in the body of the *Itihāsa* and the *Mahābhārata*, which is considered to be the greatest Indian History. The *Sāṅkhyāyana-Śrauta-sūtra*⁶, for instance, contains specific reference to a war, which, being fought in Kurukṣetra brought disaster upon the Kauravas. The *Mahābhārata* itself upholds an exposition of the battle of the *Mahābhārata* or *Mahābhārata yuddha* (xiv, 81, 8) i.e. the great Bhārata battle (e.g. *Mahābhārataākhyāna*, (1, 62, 39). The origin of this Bhārata battle may be traced to a war-like tribe known as the Bharatas in the *Ṛg-veda*. As the Brāhmaṇa literature has it, the Bharatas had their king named Bharata, who was a son of Duṣṇanta and Śakuntalā. The home of the Bharatas was in the country of the upper Ganges and the Jumna. In a subsequent period a ruler named Kuru or the Bharata tribe became very prominent and his descendants were known as Kauravas. These Kauravas acquired the land of Kurukṣetra or Kuru land which is a well known name in the *Yajurveda* and in the Brāhmaṇas. The royal house of the Kauravas was divided on a particular issue which ignited a family feud and culminated into a great battle, and finally

Studies in the Origin of Historical Traditions

brought down the entire family of the Bharatas into complete disaster. This event of the Past formed the basis of the heroic poem of the great battle sung by the bards in the erstwhile kingdom of the Kurus and then of a regular heroic poem in the subsequent ages. This nucleus was accompanied by many individual heroic poems recording history of the heroes, fragments of heroic poems and cycles of legends, which had nothing to do by the original Kuru legend. May be these individual poems, too, were originally, the conveyers of many similar actual events of the past and sung separately by the minstrels and bards of concerned families. It is likely that a class of bards exclusively specialized themselves in reciting them.

To give a vivid evolution of the traditional history represented in both the professional branches of the *Itihāsa* and the *Purāṇa*, let us remember that the growth of this culture originated in the Vedic period and held the continuity of its tradition in different branches of knowledge of the *Itihāsa* and the *Purāṇa* in the subsequent ages. The oral tradition of the *Itihāsa* and the *Purāṇa* mentioned in plural in the *Tai-Āraṇ* appear to indicate that they were growing in number, a fact that hints at the possibility of their crystallization into the text form.

In order to trace the origin and growth of the knowledge of the *Itihāsa* and the *Purāṇa*, we should take note of the origin of those who were involved in spreading the culture of the traditional history. The cradle of this culture was also the inventive potentiality of those seers who had profound wisdom of visualizing the hymns of the Vedas. In this connection, we may mention 'varṇśa', that is one of the characteristic features of both the *Itihāsa* and particularly of the *Purāṇa*, which started to originate during this period. We know of a class of priests employed by royal patrons for spreading eulogies of their activities and achievements (*Vedic Index*, 1, 150). They continued to uphold the traditions of history and the *Purāṇa*. In the *Ṛg-Veda*, we have come across the words *kāru* derived from the root *kṛ* (to commemorate), *kavi* from that of *kū* (to speak) and *Ṛṣi* from *Ṛṣ* (to flow or utter streams or songs). Among these, we should take note of the word *Kāru*, meaning a priest and a poet both, who apparently used to be employed by the royal families to collate and compose the heroic songs for glorifying the achievements of the concerned family. Hence, a professional class emerged consisting of priest-poets whose devoted service brought into existence a class of traditional literature some of which deserve appreciation for their inherent literary and aesthetic value. The three classes of priest-poets that can be traced since the time of the *Ṛg-veda* are described below: (i) *Vaśiṣṭhas* and *Viśvāmitras* serving the Bharata kings, (ii) *Kānvas*, the *Yadus* and the *Pāraśavas*, the *Purus*⁷ as well as (iii) *Bhāradvājas*, being

employed by Divodāsas and later on by the Sṛñjayas⁸, (allies of the Bharata tribe in their battle against the confederacy of ten kings during the reign of Sudāsa) are noticed from the early ages; besides some earlier minor families of priests like Kavasas engaged in composing songs of Kurus, Bhṛḡus and Druhyus eulogizing the Mānavas,⁹ (e.g. Bhārgava-Cyavana anointed Śaryāta-Mānava (*Ait. Br.* vii, 21-22) came to be recognised as falling under this class of priest-poets. Vaśiṣṭhas exercised their overwhelming power over the Bharatas after pushing them away first behind the family of the Bharadvājas and then that of the Viśvāmitras. (Sudāsa is highly praised by the Vaśiṣṭhas in several hymns). Parāśara, son or grandson of Vaśiṣṭha, Śatayātu,¹⁰ probably brother of Vaśiṣṭha, were also employed in the service of the Bharata kings. Vyāsa,¹¹ son of Parāśara, predominantly, well known as a systematizer of these floating masses of heroic poems, ballads and episodes not only compiled the accounts of the Bharata kings into the form of the collections of Bhārata saga, but also gave necessary finishing touches to bestow upon them a proper literary garb. And it is those works that have come down to us forming these two separate categories, Itihāsa and Purāṇa.

The role of the Vaśiṣṭhas, presumably, declined after the merger of the Bharatas with the Kuru-Pāñcālas. Responsibility of composing heroic legends of the family went into the hands of other families of priests. It will not be out of context, if we mention the clan of priests known as Kānvas, who composed most parts of the VIIIth *maṇḍala* of the *Ṛg-veda*, which contains unusual hymns like Dānastutis in Progāthā metre. Such priests were mostly composers of gāthās and played important part in composition of poems containing historical traditions in the Post Ṛg-vedic period. Vatsa Kānva, a member of the Kānva family was patronised by the royal families of Tirindira belonging to the Parśus or Pāraśavas,¹² Trasadasyus belonging to the Purus and Turvasu belonging to the Yadus¹³ Śobhari, a priest, belonging to the Vatsa family who enjoyed patronization of Trasadasyu, son of Puru-kutsa. The Vāyu Purāṇa¹⁴ informs us that the Kānvas and Āṅgirasas set up a new cultural complex to which the Bhṛḡus joined in a later period. In the later Vedic age three separate families of priests, viz, the Āṅgirasas along with the Atharvans and the Bhṛḡus jointly formed a powerful lobby known as Bhṛḡvaṅgiras.

In continuation of the *Itihāsa* and the *Purāṇa*, both during the period of Pāṇini and Patañjali, we may state that this traditional knowledge was spread by the same traditional men who were the custodians in upholding this culture since the time of the Vedic age. This is known from Patañjali's commentary on Pāṇini's *sūtra* no iv. 2 60.¹⁵ Every true explanation given by Patañjali, e.g. in Yāvakrītika 'one who knows the story of Yavakrīta', Yāyātika 'one who

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knows the story of Yayāti and so on, are sufficient to suggest the above view. Thus, the *Mahābhārata* contains not only details of the great Bhārata war but is a store-house of many similar and other actual events of the past in the form of bardic poetry and that is why it deserves its nickname *Mahābhārataṭkhyāna* and is still regarded as the best and most concrete creation and so the *Mahābhārata* appears to be the greatest example of *Itihāsa*.

Since some of the greatest personalities mentioned in the *Mahābhārata*, e.g. Vāsudeva, Saṅkarṣaṇa, Arjuna, Yudhiṣṭhira, Bhīma, Nakula, Sahadeva, Vidura and so on, may be noticed also in some examples given by Pāṇini, we are tempted to believe that Pāṇini was familiar with both the works, viz, the *Bhārata* and the *Mahābhārata*.¹⁶ The commentary of Patañjali, too, contains some such names which appear to nominate the prominent persons of the epics. For example, we may quote the name of Bhīma, the third Pāṇḍava (Bhayānaka), then Vidura (the name of the youngest brother of Dhṛtarāṣṭra), do not indicate Bhidura, Chidura etc. taking them as mere epithets as some scholars have suggested. It is, however, suggested that in the relevant section of his text Pāṇini does not apparently spell out that the above names referred to by him were actually of some heroes of the great epic. But a reference to another *sūtra* of Pāṇini no vi, 2. 38,¹⁷ which states the formation of the *Karmadhāraya* compound of the *Mahābhārata* will support our assumption.

The relevant explanation given by him making *Bhārata* being followed by the masculine *Mahān*, retains its accent in its original place (viz, the final syllable) while it is also put that a name of the work both the *Bhārata* and *Mahābhārata*, invariably, are to be used in neuter. The masculine form of *Mahān* appears to be applicable to the word Bhārata, because he wanted the formation of the above compound word from the word Bhārata following his *sūtra* no. iv, 2, 58,¹⁸ and it is to be further added with the Taddhita suffix *aṇ* giving the sense of *Bharata Yoddhāro'sya saṃgrāmasya* (i.e. a battle in which the Bharatas were the fighters). But Pāṇini is silent about the meaning of the word *Bhārata*, mentioned in the *sūtra mahān*-etc (iv, 2, 38).

The indirect reference to the formation of the word made by the above Sūtras makes us apprehend that both the above words mentioned in the *Mahābhārata* though indicate their category as belonging to the *Itihāsa*, really, the *Mahābhārata* claims itself to be a *Purāṇa* of which only a part is to be classed in the former, (*Mbh. Pn.cri. ed.*, 1, 1, 136-39). Pāṇini as a man of great accuracy could not overlook the class to which both the *Bhārata* and the *Mahābhārata* belonged. Following the ancient tradition, he knew that the *Bhārata* and the *Mahābhārata* belonged to the category of *Itihāsa*.

To be certain about our assumption, now we turn our attention to the *Sūtra*

no. iv, 3, 98 and to the *Sūtra* no. iv, 3, 99¹⁹, which indicate his knowledge of the stories of the Kṣatriya Vāsudeva as well as the impersonal Supreme Being. The former *Sūtra* (No. iv, 3, 98) is an exception to the latter (iv, 3, 99). It appears that both the names Vāsudeva and Arjuna do not fall under the general category of the names of Kṣatriyas, nor their names come under those of human *gotra* founders. Again the word Vāsudeva in the *Sūtra* precedes because of his being in supreme position of the Brahman.²⁰

According to the epic and the Puranic tradition, the Kṣatriya of the Vṛṣṇi clan had a good number of sons, viz, Saṅkaraṣaṇa, Kṛṣṇa, Gada, Sāraṇa and Druma; but Kṛṣṇa alone, among them came to be known as Vāsudeva (son of Vasudeva) and was looked upon as both a Kṣatriya hero and a god. Thus, Kṛṣṇa's appellation Vāsudeva was not a patronymic and really a personal name. The traditional explanation of the word Vāsudeva owed its origin to a much earlier tradition prevailing long before Pāṇini's time, and Pāṇini being familiar with this age old tradition only formed these two *Sūtras* of which the former one speaks about the known Kṣatriya Vāsudeva and the succeeding *Sūtra* provides his knowledge about Kṣatriya Vāsudeva.

Pāṇini's awareness of both the Supreme Being Vāsudeva and Kṣatriya Vāsudeva is indicated also by Patañjali's explanation of the above two *sūtras* of Pāṇini (iv, 3, 98, iv, 3, 99) when the latter incorporated them in his *Mahābhāṣya*. In the formation of the words Vāsudevaka and Ārjunaka, Patañjali traces the use of the *Pratyayas*, viz. *vun* and *vuñ* respectively. Incidentally none of the two words change their vowels after the use of either *vun* or *vuñ* respectively, and the word Vāsudevaka denotes the Kṣatriya Vāsudeva when it is formed with the *Pratyaya vuñ*. But why does Pāṇini prescribe another *Sūtra* (No. iv, 3, 99) for the formation of the same word Vāsudevaka adding *vun*? Here, Patañjali gives the clarification that the word Vāsudevaka when formed with the *Pratyaya vun* is indicating the followers of Vāsudeva, who is regarded as the Supreme god, viz, Vāsudeva and not the Kṣatriya Vāsudeva, who is intended when the same word Vāsudevaka means the followers of Vāsudeva. Kaiyaṭa in his *Bhāṣya-Prudīpa* corroborates the above view of Patañjali²¹ and Jayāditya, in his *Kaṣikā* also supports the above view about two Vāsudevās, (1) the name of the god and the other (2) Kṣatriya Vāsudeva.²² Hence, it appears that Pāṇini was well aware of the existence of two Vāsudevās: the god Vāsudeva and (2) Vāsudeva of Vṛṣṇi clan and this Kṣatriya Vāsudeva was the incarnation of the supreme god Vāsudeva. In the light of Pāṇini's *sūtras* (nos. iv, 3, 98; vi, 3, 99) and their explanations given by Patañjali, we may arrive at the conclusion that the epic story about Kṛṣṇa-Vāsudeva was known during the time of the great grammarians. Besides the presence of the words Yudhiṣṭhira and

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Arjuna occurring in the *Vāhvādiguṇa*, side by side, with the words Kṛṣṇa, Śāmba, Gada, Pradyumna and Rāma (i.e. Balarāma) who were members of the Vṛṣṇi-Yādavas and presented by Pāṇini as examples, prove beyond doubt that Pāṇini was quite familiar with both the *Bhārata* and *Mahābhārata*, and for that matter with the nucleus of the Kaurava-Pāṇḍava war with which Kṛṣṇa was intimately connected. The basis of the war formed the shorter epic *Bhārata*, which was composed before Pāṇini's time.

We have, already discussed the awareness of the conception of the *Itihāsa* and the *Purāṇa* in the Period of Pāṇini and Patañjali, who knew that this traditional knowledge was spread by some groups of traditional men who were the conveyers of this culture from the Vedic period onwards. This is corroborated by other evidences mentioned by Pāṇini and explained by Patañjali in his *Mahābhāṣya*, which bear high probability of Pāṇini's alertness in regard to the old tradition preserved in the story of Vāsudeva and other epic episodes. Patañjali quotes a metrical line "*Jaghāna Kaṁsaḥ kila Vāsudevaḥ*" i.e. Vāsudeva, as tradition says, killed kaṁsa, while explaining his *vārtika* on Pāṇini's *sūtra* no. 111, 2, 111²³ and further quotes another line of a verse, viz., *asādhurmātule Kṛṣṇa*,²⁴ i.e., Kṛṣṇa is unkind to his maternal uncle. In another place Patañjali mentions another line from a verse, viz., *Samkarṣaṇa-dvittīyasya balaṁ-Kṛṣṇasya—varddhatām*, i.e. may the army of Kṛṣṇa who has Samkarṣaṇa as the second to himself, increase.²⁵ Kṛṣṇa, here, has given greater importance to Samkarṣaṇa as a joint leader, indicating the grammarian's awareness about the vyūha doctrine of Bhāgavatism, which we do not want to explain here as it is not relevant in relation to this paper. The metrical lines shown above as quotations used by Patañjali implies that the content borne by them was current as traditions long before Pāṇini's time.

It is not hard to understand the fuller exposition of the *Itihāsākhyāna* mentioned in the *Bhārata* and the *Mahābhārata*, which were known to Pāṇini and Patañjali. The grammatical traditions were keen on the floating growth of the *Ākhyāna* literature. They not only mention this literary genre but also exemplify individual names of this category; Kātyāyana refers to the *Daivāsuraṁ*,²⁶ which seems to be identical with the *Daivāsuraākhyāna* of the *Śat-Br.* Patañjali refers to the names of three *Ākhyānas*, the *Yavakṛtika*, the *Praiyangavika* and the *Yāyātika* (iv, 2,60). In another place, he says that the work embodying the *Ākhyāna* of Yayāti was divided into two parts, viz. *Pūrva-Yāyātika* and *Uttara-Yāyātika*.²⁷

The conception of the *Itihāsa* and the *Purāṇas* as two precise branches of traditional knowledge and their growth into book forms was known during the

time of *Arthaśāstra* of Kauṭilya, the famous and well reputed minister of Chandragupta Maurya of the 3rd-4th century B.C.

The *Itihāsa* as defined by Kauṭilya is included in the category of the Vedas. But its position was relegated to a secondary one along with that of the *Atharva-Veda*. The primary position was given to the *Trayī*, i.e. the *Ṛg-Veda*, the *Sāma-Veda* and the *Yajur-Veda*.²⁸ So, during the period of Kauṭilya, the three Vedas were recognised as *Vidyās* or different branches of learning.

We have already noticed that the *Atharva-Veda* and the *Itihāsa-Veda* had been estimated as equal in position with the other Vedas during the period of the Vedic literature and got sacred character. All of them were considered to have originated from the Supreme-Being, although the magic songs of the *Atharva-Veda* and the traditions of the *Itihāsa-Purāṇa* were full of popular notions.²⁹

Both of them were remodelled by the priestly class in the subsequent period and acted upon their existing culture about which, we have, already, given a detailed information. The *Itihāsa* and the *Purāṇa* had widened their scope dealing with topics of diverse character in the period of the *Arthaśāstra*. That is why they did not depend only on the theological materials like religion, philosophy and the similar subjects but they incorporated secular aspects too,

The *Arthaśāstra*, for instance, contains a passage, which corroborates our assumption. The passage acknowledges the connotation of *Itihāsa*, which comprised all forms of historical compositions, viz., *Purāṇa*, *Itivṛtta*, *Ākhyāyikā*, *Udāharaṇa*, *Dharma-śāstra* and *Arthaśāstra*³⁰. It implies that not only materials concerning theological aspects but also all types of secular subjects are incorporated in the broad sphere of the knowledge of *Itihāsa*. The sense of the (1) *Purāṇa* does not require, further explanation in relation to that of the knowledge of *Itihāsa* as it has already been noticed earlier.³¹

(2) *Itivṛtta*, separately deals with those narratives concerning holy career of divine beings like kings and Ṛṣis. The other is (3) *Ākhyāna*, which exclusively includes historical narratives of the past events. Both of them promulgated their separate existence into the general body of the knowledge of the *Itihāsa*. This was the process, which was followed in expanding the meaning of the subject and was conducive to the growth of the knowledge of the *Itihāsa*. Further additions of the constituents of the growth of the *Itihāsa* are mentioned by Kauṭilya, viz. *Udāharaṇa*, *Dharmaśāstra* and *Arthaśāstra*. Of these three constituents, *Dharmaśāstra* and *Arthaśāstra* were considered to be separate treatises during the time of Kauṭilya, whose famous composition itself was entitled *Arthaśāstra*. *Dharmaśāstras* were also known to be separate scriptures dealing with matters of theology. But knowledges involved in these treatises

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should also be incorporated in the broad knowledge of the *Itihāsa*. Inclusion of Dharmaśāstra and Arthaśāstra in the body of Itihāsa is not any abrupt appearance which is only recognised by Kauṭilya in his *Arthaśāstra*. But it seems to be a continuous process. Their (viz. *Dharmaśāstra* and *Arthaśāstra*) incorporation into the knowledge of *Itihāsa* calls for the reminiscence of two other terms, viz, *Vākovākya* and *Kalpa* and these were inter-related with historical traditions like all other types of historical composition.

The *Vākovākyas* appear to have conveyed the sense of dialogues. Sāyana wanted to deal out their examples in special theological discourses which were similar to the numerous Brahnavidyās or disputations on spiritual matters. Sāyana gives example of one of them in the dialogue between Uddālaka and Āruṇi and so on.³² We may postulate parallel instances of similar incidents. It is nothing but proper arguments on logical viewpoints; the ancient name of the science is Ānvikṣikī or the logical science. These discourses based on either theological or secular matters contained the root of historical traditions too, because they being orally transmitted maintained many events concerning past. At the same time the logical disputes were conducted according to established rules contained in the Nyāyaśāstras. In the xth chapter of the *Gītā*, the lord says that he is *Vāda* among the dialectics. *Vāda*, *Jalpa* and *vitaṇḍā* are three categories of logical arguments (a) *Vāda* includes judgement on the right view of merits and demerits of a subject. (b) *Jalpa* is a kind of dialectic in which one tries to impose his own viewpoint without proper argument on the basis of merits. (c) *Vitaṇḍā*, the third category, is that kind of argument, which a person wants to put only to cross the argument of the opposite side. *Vākovākya* and *Udāharaṇa* are the precursors of this science of arguments. We have examples of various debates in sacrificial assemblies, royal courts and hermitages. Such discourses are known in the dialogue between Sulabhā and Janaka, between Suvarcalā and Śvetaketu³³ and many others which show that such debates were in vogue. Śaṅkarācārya takes *Vākovākya* of the *Chāndogyaopaniṣad* in the sense of Nyāyaśāstra. (7.1.2). This *Nyāyaśāstra* is the very basic foundation of all categories of Śāstras.

Next to *Vākovākya*, we meet another term, viz, *Kalpa*, which, we know, are the Sūtras or manuals on rituals. They are Śrauta, Gṛhya, Dharma and Śulva. The Sūtra literature itself refers to many historical traditions as we have already noted in the previous part. The Dharma-sūtras or books of instructions on spiritual and secular laws are considered as the oldest Indian law books and were considered to be the sources of the Dharmaśāstras and the Arthaśāstras. It seems to be correct that the *Vākovākyas* and the *Kalpas* were the precursors of the later Nyāya, Dharmaśāstras and the Arthaśāstras. They were upholders

of many components of the *Itihāsa* traditions and adopted a comprehensive character during the time of Kauṭilya. Apart from the Vedic studies, all categories of knowledge were incorporated in the broad heading of the *Itihāsa* during the time of Arthaśāstra.

References:

1. iv, 2.59 (*sūtra*) *Tadadhīte tadveda*
Vyākaraṇamadhīte veda vā, Vaiyākaraṇaḥ (tattvavodhīnī)
dvitīyāntātadhyetari veditari ca pratyayaḥ syāt. Dviṣṭadgrahaṇamadhīyāne
viduṣi ca pratyekaṁ vidhānārthaṁ.
 iv, 2.60 *kratukthādisūtrāntādīṭhak.*
Kratuviśeṣeti svarūpasya tu na grahāṇām (tattva) Tathātve
satyukthā-diṣveva kratuśabdaḥ paṭhyate, nāpi Kratuparyāyānamukthādigāṇe
yajña-śabda pāṭhādibhāvāḥ I Adhyetarīti adhyetarthapītyarthaḥ Purāṇam vetti,
adhīte vā Paurāṇikuḥ (thak)
2. *Ākhyānākhyāyiketihāsapurāṇebhyaśca ṭhagvaktavyaḥ.*
3. *Mahābhāṣya* of Patañjali, iv, ed. Nirnayasagar Press,
 with Kaiyaṭa's *Pradīpa* and Nāgeśa's *Uddyota*, com. of Kaiyaṭa, *Pradīpa*,
 p. 174-75.
4. *Ibid.*, com. of Nāgeśa, *Uddyota*, P. 174-75.
5. *Āśvalāyana-grhya-sūtra*: ed. Anandasrama Press, III, 4.4; *JAIH*, xiv, Pts, 1-2,
 1983-84, p. 160; *Kauṣītaki or Sāmkyāyana-grhyasūtra*, *SBE*, xxix.
6. *Āśvalāyana-Śrauta-sūtra*, ed., A. Hillebrandte, *Bib. Ind. cal*, vol. 1888, 15.16.
 11-12.
7. Vasiṣṭhas mentioned in the *R.V.* viii, 4, 7; as priests of the Bharatas, Kāṇvas
 of the Yadus, Paraśavas and Purus.
8. Bharadvājas were priests of Divodāsas; *Pañcaviṃśa-Br.* xv, 3, 7; *Kaṭhaka-Sam.*
 xxi, 10; connected with the Śrījāyas, *Sāmkyāyana-Śr. sū.* xvi, ii, ii.
9. *Alt-Br.* viii, 21-22.
10. *Nirukta*, vi, 30.
11. *Tai. Āraṇ.* 1, 9, 12; *Sāmavidhāna-Br.* ii, 9, 8.
12. *Sāmkyāyana-Śr.Sū.*, xvi, 32, 20
13. *R.V.* viii, 8, 9, and 21; 6, 46; 9, 14.
14. *Vāyu - P.*, II, 97-98; 106.
15. *op.cit.*, Patañjali, com. of *Pradīpa* on the *Sūtra* of Pāṇini *Tadadhīte tadveda*
kratukthādisūtrāntādīṭhak (iv, 2, 59-60).
16. Rajendra Chandra Hazra, 'Vāsudeva-worship as known to Pāṇini', *Our Heritage*,
 xviii, Pt. I, January-June, 1970, pp. 1-31.
17. vi, 2, 38 of Pāṇini, *Mahāvṛīhyāparāhṇagrṣṭīśvāsajavālabhārubbhāra-*
tahailihilarauravapravṛddheṣu. The word *Mahat* (*mahā*) retains its accent before
vṛhī, *Aparāhṇa* etc.

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18. iv, 2, 56 of Pāṇini *Sid.* 1256. *Samgrāme Prayojanayodhrbhyah*. The affix *an* indicates, when it is added to a word which denotes either the object of battle or the warrior of a battle, a battle fought for that object or by that warrior as a leader. *Samgrāma* gives the meaning of the affix - *Bharatā Yoddhāro'sya Samgrāmasya Bhārataḥ*.
19. IV, 3, 98, *Vāsudevārjunābhyām-vuñ*. The affix *vuñ* comes in the sense of 'this is his object of veneration' after the words *Vāsudeva* and *Arjuna*.
IV, 3,99 - *Gotrakṣatriyākhyebhyaṃ vahulaṃ vuñ* The affix *vuñ* comes diversely in the sense of 'this is his object of veneration' after a word denoting *gotra* and *Kṣatriya* e.g. *Nākulakaḥ*. The word *ākhyam* in the *sūtra* indicates that the words should be the names of well known *Kṣatriyas*. The word *gotra* does not mean the grammatical *gotra*, but a word formed by a patronymic affix in general.
20. *Abhyakṛtam Pūrva nipatatītyasyarthasya jñāpanārthamityarthaḥ* (*Pradīpa*) Patañjali, *op. cit.*
21. *Naiṣā Kṣatriyākhyā Saṅgaiṣā tatra bhavataḥ* (Patañjali), *Pradīpaḥ Nityaḥ Paramātmā devatāviśeṣa iha Vāsudeve grhyata ityārthaḥ Udyotaḥ - Devatāviśeṣa iti vāhuvrīhiḥ*.
22. Jayāditya - *Kāśikā saṅgaiṣā devatā - viśeṣasya*
23. *Muhābhāṣya*, Kielhorn, Vol III, p. 269, on *Aṣṭādhyāyī*, III, 2. III.
24. *Ibid.*, vol. II, com. on *Sādhvasādhuprayoge ca* of Pāṇini, *sūtra* II, 3, 36 *Saptamyadhikaraṇe ca*.
25. *Ibid.*, vol II, p. 717, com. *na Vāvyayativāt* under Pāṇini, *Sūtra* II, 2, 24 - *Anekumanyapadārthe*.
26. *Vārtika* of Kātyāyana on *Sūtra* of Pāṇini, iv, 3, 88 - *śiṣukrandayamasabhadvandvendrajananādibhyaśchaḥ*.
27. *Ākhyānas* referred to by Patañjali in his *vārtika* on Pāṇini's *Sūtra Tudadhte tudveda*, iv, 2, 60.
28. Kautīlya, *Arthaśāstra*, ed. by R.P. Kangle and R.D. Basak, Book ii, ch.3, 1-2. *Sāmargyayajurvedāstrayastrayī (1) Atharvavedetihāsavedau ca vedāḥ (2)*
29. 'Studies on Historical Traditions', Rama Chatterjee, *JAIH*, xiv, Parts 1-2, 1983-84, p. 157.
30. *Op.cit.*, Kangle and Basak, Book i, chap. 5, 14.
Purāṇamitivr̥ttamākhyāyikodāharaṇam dharmasāstramarthaśāstram cetihāsaḥ.
31. Rama Chatterjee, *op.cit.*,
32. *Śatapatha-Brāhmaṇam* - ed., Weber, xi, 5, 6, 8;
Uktipratyuktirūpaṃ prakaraṇam Vākovākyam, com. of Sāyana.
33. *Brhadāraṇyakopaniṣad*, *SBE*, vol. xiv; *Śāṅkarabhāṣya*, Br, up, ed. by Durgacharan Sankhyavedantatirtha, iv, 1, 2.
34. *Chāndogya-Upaniṣad*, ed. Dr. E. Roer,
VII, 1, 2, com. of Śāṅkara: *Vākovākyam tarkaśāstram*.
35. *JAIH*, xiv, Pt. 1-2, 1983-84, p. 163.

Observations 'On a Unique Issue of Datīā'

SAMARESH BANDYOPADHYAY

In an interesting article entitled 'On a Unique Issue of Datīā', incorporated in the *N.I.Bulletin*, Vol. 39, Number 11 (November, 2004), pp. 259-61, published from Dallas, Texas, U.S.A., Jai Prakash Singh has referred to the reading¹ of the legend given by Somnath Basu and Debasish Paul on a coin in the collection of Umashankar Shaw of Kolkata. According to Singh, this *nazrana* piece is unique, "but Basu and Paul failed to realise its uniqueness" and "even though they refer to it as 'an exceptional' piece', they have not been able to point out what makes it exceptional". It is stated by Singh that the inscription in Devanāgarī script of the 19th century and Hindi language "has been deciphered almost correctly" by Basu and Paul, "but its transliteration in English is full of mistakes under influence of their pronunciation". The obverse and reverse of Basu and Paul have been taken as reverse and obverse respectively by Singh, who reads the legend as follows:



Obverse



Reverse

- "Obv: Within an ornamental double circle is a six line inscription — *Samvat mani/nabha anka sasi mā/raga doja vicitra // Datīādhipa ravi ku / la tilaka bhupa Kam / panīmitra*. A cluster of four dots or petals precede *Sa* of *Samvat*.²
- Rev : Within an ornamental double circle, as above, a six line inscription — *Śrī mahā/rājādhirāja śrī/ mahārājā śrī rāo / rājā Vijay Bahā / dara jū/deva//*. A cluster of seven dots at the beginning and at the end."³

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Drawing attention to the two full stops indicated by the two vertical lines, one at the end of the third line on the obverse, and the other at the end of the last line on the reverse, Singh observes that the second full stop shows that the legend runs from the obverse to the reverse and that first full stop indicates the close of the date and the first line of the *dohā* which, according to him, will normally be correctly written as:

Samvat mani nabha anka sasi māraga doja vicitra /
Datiādhīpa ravikulatilaka bhīpa kumpanīmitra //

While agreeing with Singh that the legend runs from the obverse to the reverse and trying to offer an explanation of the omission of an indication of a full stop by two vertical lines after the word *kumpanīmitra*, which would be necessary if a *dohā* is intended, as a mistake of the engraver, we may, however, point out that since no full stop with two vertical lines is noticeable on the obverse after the word *kumpanīmitra*, the legend, after giving the date in chronogram in its first three lines on the obverse, seems to continue from the obverse to the reverse and ends after the word *deva* where there is a full stop indicated by two vertical lines. Taken in this way, the second part of the legend starting with the word *Datiādhīpa* on the obverse and ending with the word *deva* on the reverse appears to give a better meaning.

As regards the first part of the legend on the obverse giving the date in chronogram, our reading is:

1st line - *sarīvat* (and not *samvat* as read by Singh) *muni* (and not *mani* as read by Singh as that would require a cerebral *n* and not a dental *n*, and *u* of *mu* are clearly seen on the coin)

2nd line - *nabha aka* (apparently *anka*) *sasi mā*

3rd line - *raga doja vicitra //*

This part of the legend, therefore, gives the date *sasi* = 1, *anka* = 9, *nabha* = 0 and *muni* = 7, i.e. 1907 = 1850 A.D.. It is interesting in this connection to point out that on another specimen (or perhaps the same specimen, travelling later to Shaw of Kolkata) formerly in the possession of the late R. D. Shah of London, published in the *Indian Coin Society Newsletter* No. 12, January, 1992, pp. 1-2, P. P. Kulkarni, who took the side mentioning the king's name as the obverse and the other side as the reverse, which, according to him, gives the date in chronogram composed in Bundelkhandi language, correctly read the first two lines on the reverse and arrived at the date 1850 A.D.. As noted above, Singh wrongly reads *mani* standing for 5 or 9 for *muni* and arrives at the date 1905 (1848 A.D.) or 1909 (1852 A.D.), though the suggestion of T. P. Verma that the date stands for Vikrama Sarīvat 1907 (-57 = 1850 A.D.) has been referred to by him.

Kulkarni refers to a suggestion of Chandrasekhar Gupta, made while discussing the matter with him, that the expression *māraga* stands for the second *pakṣa* of the month *Mārgaśīrṣa*, though he reads *raṅga* for *ragu* and is inclined to take the expression *raṅga doja vicitra* meaning “the significance of which is double and strange”. According to Singh, however, *māraga* and *doja* representing respectively 5 and 2, “the first three lines of the obverse legend, taken together, refer to the 2nd day of the fifth month of the year 1905 (1848 A.D.) of the Vikrama Saṁvat as the date of issue of the coin concerned”. There is no doubt that we know of the use of a word *mārgaṇa*⁴ in the sense of 5, but on the coin under discussion the word is *māraga* and it does not seem unreasonable to take it to stand for *Mārgaśīrṣa*. Therefore, the date of the issue of the coin referred to by the words *māraga* and *doja* seems to be the second day of the month of *Mārgaśīrṣa* of the Vikrama Saṁvat 1907 (= 1850 A. D.).

Stating that the date and the *dohā* make the coin most unique, Singh observes that “it was not found suitable to date coins ‘by words’ as it occupied a lot of precious space than the words expressed in numerals” and that “perhaps this is the only coin in the whole range of Indian coinage” dated in this way and “that is what makes it most unique”. However, as we shall see below, the system of giving date on coins by words and not by numerals was not altogether unknown in India. It is also observed by Singh that the “use of the *dohā* given on the coin adds to its uniqueness further”. But, as we have pointed out above, since the indication of a full stop by two vertical lines is not seen on the coin after the word *kampanīmitra*, one may doubt whether at all a *dohā* is intended. If, however, the omission of the full stop mark by two vertical lines is explained as due to engraver’s mistake, as indicated above, and if it is accepted that a *dohā* is quoted on this piece then its occurrence appears to be of some interest since a *dohā* is not yet known to occur on any other coin.

In this connection it is extremely interesting to point out that the system of dating coins in chronogram, i.e. by words and not numerals, is seen on certain coins of Kachār in North-East India. A coin of Nirbhayanārāyaṇa (c. 1559-1568 AD) mentions the year in a chronogram, which has been read by D. C. Sircar⁵ as *bhra-ke-ca-ge* and taken as Śaka 1480 by V. Chowdhury and P. Ray⁶. According to Rhodes,⁷ *ca-ge* sounds somewhat like a phonetic rendering of the Tibetan for eighty-one, and he pointed out that other coins of Nirbhayanārāyaṇa are dated Śaka 1481 in numerals, which was probably the ruler’s accession year. No photograph of the coin has hitherto been published and it is not possible to ascertain whether the chronogram is in a verse or not.

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On another coin of Kachār, belonging to Indrapratāpanārāyaṇa (1601-1610 A.D.), the year is stated to have been given in a chronogram, but, as Rhodes⁸ rightly states, "it is difficult to make any headway to reading it". However, the most indubitable evidence of mentioning the date on a coin in a chronogram is forthcoming from a coin of the Kachāri king Govindacandra (1814-1819 A.D.), a photograph of which was first published in the *Journal of the Asiatic Society of Bengal*, 1910, p. 166, by H. E. Stapleton who took R. D. Banerji's help for reading the coin legend, which was later correctly read by A. N. Lahiri⁹. What is extremely stimulating in this connection is to note that the legend of Govindacandra's coin giving the date is in a Sanskrit verse composed in *Anuṣṭubh* metre. In his *Studies in Indian Coins*¹⁰, D. C. Sircar has included a description and a photograph of the coin and there is also a description of the coin in the *Coinage and Economy of North-Eastern States of India*, edited by Dr. Jai Prakash Singh and Dr. Nisar Ahmad, Varanasi, 1980, p. 95. Coins bearing metrical legends on them are well-known from the time of the Gupta kings, but Govindacandra's coin including the mention of the year 1736 of the Śaka Era in its metrical legend is indeed of absorbing interest. For ready reference, the coin is reproduced below with a description.



Size : 0.93 inches. Metal : Silver. Weight 173.75 grains.

Obv: Haiḍambapur-adhīsa(śa) - śrī Raṇacaṇḍī-padājuṣa[h]/

Rev: Śrī-Śrī Govindacandrasya rāñō='ṅga-tri-ad[r]i-kau Sa(Śa)ke//

"[Coin] of the doubly illustrious king Govindacandra, the lord of Haiḍimbapūr and devoted to the feet of śrī-Raṇacaṇḍī [struck] in Śaka [year counted by] aṅga (6), tri (3), adri (7) and ku(1)" (i.e. in Śaka 1736).

References:

1. *Mudrātattva*, ed. Samaresh Bandyopadhyay, Kolkata, 2003, p. 70.
2. In fact, there is a cluster of seven dots at the middle above the first line and a cluster of three dots are visible at the beginning and end of the 1st, 2nd, 3rd and 6th lines.
3. On this side also on top of the first line there is a cluster of some (four?) dots and in the beginning and end of the 2nd and other lines some other clusters of dots are seen.

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4. D. C. Sircar, *Indian Epigraphy*, New Delhi, 1965, p. 231.
5. *Journal Num. Soc. Ind.*, Vol. XLV, 1983, pp. 194-195.
6. *Ibid.*, Vol. XLVII, 1985, pp. 131-132.
7. *The Coinage of North-East India*, Hythe, 1994, p. 97.
8. *Ibid.*, p. 108.
9. *Ep. Ind.*, Vol. XXXV, 1963, pp. 103-104 and Plate facing p. 103. S. K. Bose has pointed out that the inscription was correctly read at an earlier date by Padmanath Bhattacharyya Bidyavinode in *Heḍambarājyer Daṇḍavidhī* (Penal code of the Heḍamba Kingdom), Gauhati, 1920, albeit not explaining that the date was written in chronogram form. The illustration given here is provided by Bose from that publication.
10. New Delhi, 1968, pp. 27 and 398 and Plate XXII.9.

Irrigation in Ancient India

PUSPA NIYOGI

India being mainly an agricultural country, the importance of irrigation and drainage cannot be overlooked. Irrigation is the artificial application of water to soil for the production of crops. Drainage is the artificial way to draw out water from land. Again irrigation may be of two categories: natural and artificial. Natural irrigations are those which are nature's gifts and artificial irrigations are the effects of man's labour.

Irrigation means the application of water to cultivate land for the production of crops. The sources of irrigation water, that is surface water and ground water were provided by rivers, canals, lakes, wells, ponds, pools, artificial reservoirs, of many varieties, great and small, public and private, to which there are numerous references in the sources, both literary and archaeological. Thus the whims and failure of rainfall were met by one & other means of irrigation.

Fortunately Eastern India is blessed with great rivers, such as the Ganges, the Brahmaputra and their branches and tributaries. Besides, North-eastern India is plentifully watered by two monsoons. Above these there are other means of irrigation in this part of the sub-continent.

The origin of artificial irrigational schemes is very old. Although no one really knows when or where irrigation was made use of for the first time.¹ The farmers realised that they cannot wholly depend on rain, so irrigation was absolutely necessary. This is emphasised in the Epics.² It was considered to be a meritorious work to dig wells and tanks, which caused kings and aristocrats to engage themselves in such activities.³ Not only Epics but others also spoke about irrigation. Kāmandaka⁴ speaks in favour of irrigation and Manu directs the kings to undertake the work of excavation of wells, tanks and canals.⁵ Kauṭilya refers to two types of *Setu*⁶. Nārada⁷ classifies the dikes into two classes : *Kheya* (which is dug into the ground) serves the purpose of irrigation and *bandhya* (which prevents the access of water) protects the field from excessive water.

Different Kinds of Irrigation

Artificial irrigation was carried on in Eastern India and outside from wells, tanks, ponds, pools, lakes, reservoirs, canals, etc. When there was scarcity of water, people had to depend on water of wells; the same is true of Bengal. Some of the villages depended on water from wells. The R̥gveda contains references to the water of the wells being used for watering the fields and

we have repeated mention of the word *Avata* meaning a well.⁸ Kauṭilya states that tanks and wells should be built in barren and less fertile parts of the country.⁹ Other authorities also refer to tanks, wells, canals and reservoirs. The *Amarakoṣa* refers to wells and it is regarded as the most popular form. A verse in the *Baudhāyana Dharmasūtra* shows that some of the villages entirely depended on wells for their water requirements.¹⁰ Besides, the water of the wells remain the same at the time of the drought, when tanks are dried up. The *Aparājitaṭṭhā*¹¹ refers to ten categories of wells viz. *śrīmukha*, *viṣaya*, *prāta dundubhi*, *manohara*, *Cūḍāmaṇi*, *Dighadra*, *jaya*, *nanda* and *śaṅkara*, which differed by four to thirteen hands in length, each being one hand longer in due order, i.e. the second is one hand longer than the first. The same authority also mentions four categories of *vāpi*s and *Kuṇḍas*. Next it refers to six types of tanks, namely, *sara*, *mahāsara*, *bhādrakas*, *subhadra*, *parigha* and *yuguaparigha*. They are further classified according to their length and width of their fences (*pāṭī*).

Tanks are denoted by the term '*vāpi*' which is a tank of the smallest size, *taḍāga* which implies a large tank and *dīrghikā*, a tank of oblong shape and a tank of a very large size.¹²

The *Abhidhanaratnamālā* classifies reservoirs, ponds, tanks and springs accordingly. Thus a reservoir is distinguished from a deep water reservoir, similarly a pond is classified into a small pond, a natural pond and an artificial pond : tanks are also classified as a small tank, a large oblong tank and a dug spring, and natural spring.¹³

The *Upamitibhavaprapaṇcāsthā*¹⁴ mentions some reservoirs, viz. - *dirghikā*, *guṇḍalikā* and *yantravāpika*. A steep well and a well in a high place are also distinguished by Hemacandra.¹⁵ Mention may also be made of a ring well. In the ring wells, instead of bricks, terrecotta rings were used. Ring wells appeared in India in the 6th century B. C. and continued till about the 2nd century A. D. According to Y. D. Sharma, ring wells can be seen even at present in Orissa and Bengal. Their present use is for drinking water.

Epigraphic records also refer to the excavations and gifts of tanks, wells, etc. by different rulers and individuals. It was considered the most meritorious work to make provision for supplying water to land and its people. Accordingly we find a minister undertaking this type of work with his resources. Bhaṭṭa Bhavadeva, the minister of king Harivarman of the Varman dynasty of Bengal, performed the excavation of a tank before the temple of Viṣṇu in Rāḍha (West Bengal). The Bhuvanesvar inscription further claims that 'in Rāḍhā, in the water-less (*janḡalapatha*) boundary lands abutting on a village situated in an

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arid region, has been made (i.e. excavated) by him a reservoir of water (or tank) which gladdens the soul and mind of the company of tourists, sunk in fatigue, and whose beds of lotuses have become devoid of bees...¹⁶

The Deopara inscription of Vijaya Sena, records the construction of a temple by Vijayasena who excavated a tank near it.¹⁷ Besides, we have names of tanks which formed boundaries of gift villages. Yakṣapāla executed one tank and named it 'Uttara-Manasa'; may similar examples are there. Thus, in the Tarpaṇḍighi copper plate of Lakṣmanasena the boundaries of the gift villages are given as follows: the south boundary is formed by the Niṣaḍahāra's tank, the west, by the Nandiharipā kuṇḍī (or the tank belonging to Nandiharipā) and the North, by Mollāna-Khāḍī (or the ditch belonging to Mollāna).¹⁸ Many tanks and wells built by private individuals and named by them are found but records of which are not preserved. It appears that wells and tanks are popular means of irrigation. Kauṭilya¹⁹ believed that irrigational works having a perennial supply of water is better than that which is fed by water drawn from other sources. In the *Mahābhārata* we are told that a tank is hundred times more important means of irrigation.

Canals

In addition to wells, tanks etc. mention may also be made of canals. It is interesting to note that the *Veda* contains references to canal digging and in the *Atharvaveda* we find description of canal digging.²¹ In Buddhist literature, in the time of Buddha, the Khalas of Magadha were intersealed by a network of canals and ridge which formed the boundaries of the fields.²² The process was meant to regulate the inflow and outflow of water from the fields.

It may be noted that volume of water in the rivers of Bengal (the Ganges, the Brahmaputra and their tributaries) increased greatly during the monsoon. So canals were dug to divert water from the rivers for irrigating the fields. In fact, there were a number of channels, large and small, all fed from the Ganges, which watered the vast plains of Eastern India and around. They also knew the process to regulate the flow of these fertilising waters of the rivers with the poor water of the monsoon rainfall or to make these canals overflow and to wash the rice fields. This system of irrigation is defined by William Willcocks as 'overflow irrigation'. The main features of these types of irrigation are the following.²³

- (1) The canals are broad and shallow, carrying the waters of the river floods, rich in fine clay, and free from coarse sand;
- (2) The canals were long and continuous and fairly parallel to each other for purposes of irrigations; and

- (3) The irrigation was performed by cuts in the banks of canals, which were closed when the flood was over.

Dr. A. L. Basham holds the same idea when he states : 'In the flat plains, the land was cut by canals running from the great rivers and dotted with artificial reservoirs, which were made by and fed its smaller channels, which watered the fields'.²⁴ This water contained a great deal of silt, which helped the soil and the crops. This soil is known as '*Nadīmātrka*' This is emphasised in the *Tilukamañjari*²⁵ where there is reference to the fertile banks of the river Savasvatī, whose water was sent to the neighbouring regions. This view is upheld by Dio Chrysoslom as early as in the 1st century A.D.²⁶ Cultivated fields irrigated by canals is referred to by Kauṭilya and Amarakoṣa (*jalaminganah*); Patañjali also refers to canals.²⁷

A lake is a large body of water within the land. A lake is probably bigger than a tank, pool, pond, well, etc. It may be compared to a big reservoir. In ancient Bengal there were some lakes but specific references about them are not available. The *Rāmacarita* refers to the reservoirs constructed by king Rāmapāla.²⁸ It may be a lake. Outside Bengal there are many lakes, like the Sudarśana lake lying at the foot of Mount Girnar in Surāṣṭra. From the Junagarh Rock inscription of Rudradāman²⁹ (C. 150 A.D.) we learn that the lake in question was originally built during the reign of Chandragupta Maurya. The dimension of the dam (420 cubits & 75 cubits) give an idea about the vastness of the reservoir. This lake had strong embankments and was provided with drains for proper distribution of water to the cultivated fields. In the time of Rudradaman, there was a flood, resulting in a damage of the lake. The repair work was carried out by the State after two months' efforts and an expenditure of huge money. It is doubtful whether a lake of this kind was known to ancient Bengal. It may be presumed that there were many lakes in ancient Bengal but they may not be owned by the State, so references about them are still wanting.

More important was the achievement of Jayasimha, who constructed the Sahasraliṅga lake of Anahilapura. An old inscription states that the water of the river Sarasvatī was canalised to fill up the lake with its water.³⁰ The lake has been referred to by Hemacandra in his *Dvyāśraya Kāvya*.³¹ Merutuṅga refers to the excavation of the famous Karṇa Sāgara lake by king Karṇa,³² and Kalhaṇa refers to the Pamba lake excuted by king Harṣa (1089 - 1111 A.D.) of Kashmir, which has been identified by Stein with the lagoon called new 'Pamba Sar'.³³

It is important to know something about the many irrigational works and projects that existed in India, out side Bengal. References to some of them

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are already mentioned. It is not possible to notice all such works and projects, only references to some important projects may be stated here.

The most important irrigational project is in Kashmir, Kalhaṇa's *Rājatarāṅgiṇī* gives a picture of Kashmir suffering from famine under devastating floods of the Mahāpadma lake. Suyya constructed a stone dam and built stone embankments along the river banks. He thus saved Kashmir, King Lalitādyāya Muktāpīḍa effected improvements by distributing the water of the rivers to various villages, by constructing a series of water wheels. As a result of this the produce of the soil increased. Shortly afterwards the country was again overtaken by flood and famine. These natural calamities were completely averted during the reign of Avantivarman (A.D. 855-883) and others.³⁴ Besides Kashmir, other dynasties also constructed irrigational projects in their respective kingdoms. Thus the Cālukyas of Gujarat, the Cāhamanas, the Kalachuris, the Cāndellas, and the Paramāras excavated and constructed tanks, wells and other irrigational works.³⁵

During the reign of Jayapāla of Kāmarūpa, a Brāhmaṇa, named Prahāsa executed a tank.³⁶ In Bihar Gaṅgādhara executed a tank in the Gaya district sometime before A.D. 1137.³⁷

Raula Vallāladevāka, a feudatory of Narasimhadeva constructed a *vaha*, i.e. a water channel some time before 1158 A.D.³⁸ Another feudatory, Malayasimha excavated a tank in Rewah in 1192 A.D. at the cost of 1500 taṅkas.³⁹ There must have been many other tanks and wells excavated by private persons in North India.

Not only the ancient people excavated irrigational works and projects, but they knew how to operate them. The *Abhidhānaratnamālā* describes the different parts of the wells and the method used for its operation.⁴⁰ It also refers to *arughaṭṭu*, i.e. the wheel or machine for raising water from a well.⁴¹ It is interesting to note that as early as the vedic period water seems to have been raised from wells by means of a wheel (*cakru*) to which buckets of wood were tied. The evidence of another passage in the *Ṛg-Veda* shows that sometimes this water was poured into channels and sent to different parts of the field.⁴² Muir took the word *Kulyā* to mean artificial water-ways which carried the water into reservoirs.⁴³ In this connection mention may be made of *Utsecane Stambha*. This phrase probably refers to the water lifting apparatus (Tamil Erram) familiar in South India. It is like a full grown stump of a tree at the end of which was attached the pitcher to lift water from well.⁴⁴

The *Deśināmamālā* explains some technical terms such as *āguttī*, *ukkā*, *ukkāḍḍī*, *dhemka*, etc. in connection with raising water from a well.⁴⁵ Strong machines were also fitted to wells.⁴⁶ The machine known as *arughaṭṭaka* was

not used by every body but by people of the higher status of the society. It was expensive.⁴⁷

Medhātithi refers to a term *Yantra* to mean building embankment for regulating the flow of water.⁴⁸ He also tells us about water being drawn from the well or the tank and kept safely in a reservoir.⁴⁹ Four water machines (*vāri-yantra*) are mentioned.⁵⁰ These were to bring water down, to raise it first and then to bring it down again and then to raise it. How far they were used for ordinary purpose is not known.⁵¹

Construction and protection of irrigation work

Different kinds of irrigation works were undertaken by the state, such as big irrigational projects, wells, tanks and canals. They depended to a great extent on the joint labour and co-operation of the villagers.⁵² Lastly individuals sometimes also undertook the excavation of wells, tanks, etc.

Digging of wells, tanks were considered to be meritorious works, which induced king and rich people to engage themselves in said activities. Very hard labour is required to engage in irrigation work. From the *Mahābhāṣya* of Patañjali we come to know about a well digger, who had to labour very hard to fulfil his objectives.⁵³

It may be presumed that during the historical period, in India, both North and South followed the same principles regarding major issues, and projects. The state took up full responsibility for the development of irrigation, as required. The state also granted many facilities for undertaking new irrigation works or repairing the old ones.

On the other hand, the State was serious against those who violated the minimum norms set forth. Moreover, rules, were framed by the ancient jurists for the protection of irrigation works. They are the following :

1. (a) According to Kautilya, a tank must not be made below one already existing in such a way as to submerge an irrigated field.
(b) The flow of water from a higher tank to a lower one shall not be stopped, unless the latter has been out of use for three consecutive years.
(c) The emptying of a tank is punishable with fines.⁵⁴
2. The ownership of any private irrigation work (*Setubandha*) which has been neglected for five years shall lapse, except in the case of public calamity.⁵⁵
3. Persons making use of irrigation work belonging to others on payment of a lump sum, as annual rent, or share of the produce shall keep the works in repair or pay twice the cost of putting them in repair.⁵⁶

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4. (a) The penalty for letting water out of a tank otherwise than by the proper sluice (*apāra*) or obstructing a sluice (*para*) through negligence is six *paṇas*.
(b) For wilfully obstructing irrigation or the flow of water from the sluice gate of tanks one shall pay the same fine (*pūrvasāhasadaṇḍa*).⁵⁷
5. Persons who cultivate the lands below tanks, etc. of others at a stipulated price (*prakraya*) or for annual rent (*avakreya*) or for a certain number of shares of the crops grown (*bhāga*) or persons who are permitted to enjoy such lands free of rent of any kind, shall keep the tanks in good repair, otherwise they shall be punished with a fine of double the loss.⁵⁸
6. Manu lays down that a person breaking (the dam) of a tank should be drowned in the water or he may be asked to repair the damage and to pay a heavy fine.⁵⁹
7. Stealing of water from tanks and wells, as well as, the sale of tanks or wells was considered heinous offence according to Manu.⁶⁰
8. It is further ordained that the people who fail to help the king when a dyke, or embankment is demolished by burgler (thieves) or gangsters (*hitābhaṅga* according to Kulluka) should be banished with their goods and chattels.⁶¹
9. Viṣṇu prescribes death punishment for the breakers of dykes.⁶² Bṛhaspati is more lenient and lays down that he who destroys an embankment shall be fined 100 *paṇas* or more according to the nature of offence.⁶³ Protection of irrigation works is also recommended in the Great Epic.⁶⁴

From the above data it follows that in ancient India great importance was attached to irrigation works and projects. Any harm done to it was a serious concern of the state, which is clearly reflected in the Great Epic, in the *Arthaśāstra*, and in writings of Manu, Viṣṇu, Bṛhaspati and others.

Not only irrigation works were protected, but several ceremonies in connection with it were held. One of the Sūtras⁶⁵ describes a ritual performed at the time of making a river flow in a particular direction, the purpose seems to be irrigation of agricultural lands.

State—Functionaries.

We know from the *Arthaśāstra* of Kauṭilya and others that administration of Irrigation was carried under an *Adhyakṣa* or Superintendent. The list of officials

mentioned in the Pāla records points to a similar plan. This is more definitely established by the facts mentioned in the Irda copper plate, of the Kamboja king Nayapāla, which throws light on the organisation of administration. It includes in the list of officials, 'the Heads of Departments (*Adhyakṣa-varṅga*) along with the clerks (*Karaṇa*)'⁶⁶

Strabo speaks of a class of royal officers in-charge of Irrigation and its improvements. They may be compared with the officers called *Nadīpāla*⁶⁷ in the *Arthaśāstra*. Kauṭilya further tell us that the superintendent of Agriculture (*Śītādhyakṣa*) had the general control of state-owned irrigation works. His duties consisted of 'letting in water from river (*Nadī*), lake (*surah*), reservoir (*Taṭāka*) and wells (*Kūpa*) by regulation of sluice gates (*udgāṭam*, *udghātyate*, *nissi*, *ryate*, *jatam*, *aneneti*, *udghāto*, *arughaṭṭakādi*, *yantram*).⁶⁸ From the *Arthaśāstra*, we further learn that 'letting out water and receiving it out of turn (*vāra*) is a punishable offence. Cultivated fields irrigated by canals are described as *Kulya-Vāpa*.⁷⁰

Secondly, there is a reference to a process of irrigation called *Srotoyantra pravartimam* which means the arrangement of appliance by which the Irrigation officer distributes the water among the fields by bringing it from flowing streams.⁷¹ As regards the statement of Megasthenes about distribution of water, it should be such that 'every one may have an equal supply of it'. This is also ensured by Kauṭilya. All are taxed equally for the water they use for their respective irrigation needs. The Irrigation officer is empowered to settle dispute as to distribution of water among different fields (*Kedara*) situated at different levels.⁷²

Nor should the flow of water from a new and higher to an older and lower tank be stopped.

Irrigation works like the construction of wells, tanks, reservoirs, etc., depended on the joint labour and co-operation of the villagers and the state. Moreover, rules were made for the protection of irrigation works. The state tried its best to develop irrigation. In course of time irrigation became a major industry in Bengal and outside. It greatly helped agriculture.

Ownership

There is a long standing controversy regarding the question of the ownership over irrigational projects and works in North India.

There is a view that the king was the owner of the soil and the irrigation works, such as wells, tanks, etc.⁷³ But this view is not widely accepted. Moreover, there was a distinct attempt on the part of the ruling power to establish their ownership right over irrigation project. In theory, at least the

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king may have been regarded as the ultimate owner of all lands and irrigation projects in his kingdom, though in practice private property in land was duly recognised.

In support of this, a passage from Manu⁷⁴ is quoted to prove private ownership. The passage says that 'the first cleaner of forest, is the owner of the land thus reclaimed'.

Kane⁷⁵ has collected valuable materials, from the Smṛtis and their commentaries and other allied texts which in his opinion go to establish the theory of private ownership on an indisputable basis. It may be noted that what is true of land is also true of irrigation works. It is clear that the man who had a well dug on his own land was its natural owner.⁷⁶

Medhātithi⁷⁷ suggests that for all practical purposes, the claim of the state to the ownership rights over natural irrigation works such as ponds, lakes, river, streams, etc. situated in the village, should be vested in the village as a whole which engaged it on behalf of the king.

Land grants issued by kings are found conveying right to receive the royal share of the produce. Thus, for example, when the grant of a village is made, it means a transfer to the grantee of the income, derived by the king from that village. There is no evidence to show that such a grant affected the right of private ownership, already possessed by its inhabitants in respect of the landed property situated in the village concerned. A grant in such a case did not affect any change in the existing rights enjoyed by the residents of the village. Of course, there is no express mention of such rights being allowed to continue unaffected.

References:

1. Pre-historic tablets and carving point out that ancient civilisations were born near rivers that supplied irrigation water to the fields. Reservoirs developed also in the ancient past. The *R̥gveda* contains references to the water of wells being used for watering the fields and we have repeated mention of the word *Avata* meaning a well. (see R.V. I, 85, 10, II, 116, 9; IV, 17, 16; VII, 49, 6; X, 25, 4); It has been pointed out by one scholar, that the most ancient centres of irrigation were the seats of the oldest civilisation: the Egyptians introduced system of basin irrigation in the Nile Valley; at the same time the Babylonians began their system of perennial irrigation in the joint delta of Euphrates and Tigris: the 'overflow irrigation' was evolved by the rulers of ancient Bengal some 3000 years ago; Williams Willcock, *Ancient system of Irrigation in Bengal*, Calcutta 1930. pp. 166.
2. In a well-known verse in the *Mahābhārata* (2.5.67) the sage Nārada tells Yudhiṣṭhira : *Kuccid rāṣṭra tadāgani, purnāhi ca br̥hmi ca bhāgāśo vinīviṣṭāni*

- na kṛṣi = devamātrkā. (I hope, that in your domain the tanks are full and increasing (in number) and (the water) is divided proportionately. (Agriculture should not depend on rainfall): irrigation was also known in the *Rāmāyaṇa* (2.74, 10-11), it is stated that while Bharata was marching to meet Rāma in the forest, his men erected dams, wherever it was possible and excavated water-courses to carry off the excess water (*purivahana bohūdakan*) and created many large lakes. They also excavated various kinds of wells; cf. Rāma praises the lord of Kosala as *adavanatakaḥ* i.e. not depending on rainfall but on irrigation (*Rāmāyaṇa*, II, 100, 46) and the *Arthaśāstra* uses the same epithet to describe the qualities of a good country (*Arthaśāstra*, VI, 1). According to Diodorus (II, 92) a large part of the soil was under irrigation.
3. Cf. A. K. Majumdar, *Economic Background of the Epic Society*, Calcutta, 1977. pp. 135-136, Progressive publishers, Kolkata.
 4. *Kāmanduka*, IV, 51-52.
 5. Manu, VIII, 248; cf. Medhātithi on Manu (I, 30).
 6. Kauṭilya refers to two types of *Setu* (or embankment or dam) which is built for holding waters. The *sahatleka Setu* and the *ahāryadaka Setu*. The former appears to refer to tanks, wells etc. which are fed by natural springs of water, while the latter seems to imply the storing of water in reservoirs by means of embankments (2.1.20) : of the two the former is preferable to the latter (7-12, 4-5) : of irrigational work works (*ṣetubandha*) that which is of perennial water is better than that which is fed with water drawn from other sources; and of works containing perennial water, that which can irrigate an extensive area is better (VII, 12, 4-5. p. 331).
 7. *Nārada*, XI, 18.
 8. *Ṛgveda*, I, 85. 10; I, 116.9; IV, 17.16; VIII, 49, 6; X, 25, 4.
 9. *Arthaśāstra*, II, 34, It may be noted that it was followed in ancient Bengal also.
 10. *Amarakoṣa*, 9-10, p63; *Bauddhāyana*, II, 3, 6, 32; *Gautama*, IX, 10.
 11. *Aparājita-prcchā*, of Bhuvanadeva. Ed. by P. A. Mankad, Baroda, 1950 : pp. 183-185; VV. 2. 4-36; cf. L. Gopal, *Economic Life of Northern India*, Varanasi, 1965. pp. 288-289.
 12. If. J. F. Fleet, *Corpus Inscriptionum Indicarum*, Vol. III, London, 1888, reprinted, pp. 75, 166, 199; EI. XI, pp 107 ff; *Amarakoṣa*, 9.28.66; The Sasankadighi of West Midnapore district, which is popularly known as excavated by Śaśāṅka, king of Gauḍa, it is about 1/3rd mile in length and a little less in breadth; and there are also many other *dighis* of very big sizes in many other parts of ancient Bengal.
 13. *Abhidhānaratnamālā*, VV. 675-677.
 14. *Upamitibhava-prapañcācathā*, p. 56.
 15. *Deśināmamālā* of Hemacandra. Ed. by R. Pischel, 2nd Ed. by P. V. Ramanujaswami, Vizianagaram, 1938; I, 94, 89.

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16. N. G. Majumdar, *Inscriptions of Bengal*, Rajshahi, 1929, III, pp. 25-41; Gamiyaya, a minister of king Hemādrīdeva of the Berar region also excavated a deep tank and a well (*EI*, XXI, pp 132 ff).
17. N.G. Majumdar, *op.cit.*, pp. 44 ff.
18. *Ibid.*, pp. 99 ff.
19. *Arthaśāstra*, VII, 12, p. 330.
20. *Mahābhārata*, *Ādi Parva*, 69, 21. (Ed. S. Sukthankar).
21. *Ṛgveda*, I, 85, 10; I, 116, 9; IV, 17, 16; VIII, 49, 6; X, 25, 4;
22. *Mahāvagga*, VIII, 12, 1-2.
23. Williams Willcock, *Ancient system of Irrigation in Bengal*, Calcutta, 1930, pp. 5-60.
24. Basham, A. L. *The Wonder that was India*, London 1954, p. 102.
25. *Tilakmañjari Kuthā* of Dhanapāla, N. S. P. Bombay, 1903, p. 181; cf, *Aparājītapṛcchā*, p. 188, V. 37.
26. McCrindle, J. W. *Ancient India as described in Classical Literature*, Westminster, 1901, p. 175; Strabo (XV. 1.50) refers to the embanked canals from which the water was distributed into channels, so that all could be benefitted. Patañjali refers to canals for irrigation (*Mahābhāṣya* 1.1.24; cf. 1.82.27) The Hāthigumpha inscription (2nd half of the 1st century B.C.) (*EI*, XX, pp. 72ff) records that king Khāravēla of Ceta dynasty caused a canal to be opened and brought to his capital from Tanasuliya (Tosālī). From the account of Apollonius of Tyana (1st century A.D.) (R.C. Majumdar, *The Classical Accounts of India*, Calcutta, 1960, p. 395) we learn that dykes roving from place to place, served the purpose of canals for irrigation. Excavations have brought to light some important canals in different parts of India, e.g. Besnagar yield a canal, 185 feet long; (300 B.C.) Another canal was dug out from Kumrahar (Patna) (*Indian Archaeology*, 1954-55. pp. 19ff; the Chola king, Karikāla (1st century B.C.) built embankments along the Kaverī river to control its water and distribute them to irrigate the barren regions (*IA*, 1908, pp. 233 ff;) (*The Age of Imperial unity*, Ed. by R. C. Majumder, Bombay, 1953, p. 231). The excavation at Nāgārjunikoṇḍa revealed a huge construction of an ancient canal for irrigation, belonging to the Ikshvāku dynasty (*Indian Archaeology*, 1954-55. *A Review*, pp. 22-23; *II It*, XI, p. 309).
27. *Arthaśāstra*, 10, 24. *Amarakoṣa*, 9. I, pp. 62 ff; 9.36. pp. 6-7; pa *Mahābhāṣya*, I, 1024.
28. *Rāmacarita*, III, 42, p. 108.
29. *Epigraphia Indica* (henceforth *EI*.), VIII, pp. 42ff; *IA*, VIII, pp. 257 ff.
30. *Annual Report*, Baroda State, 1934-35, pp. 18 ff.
31. *Dvyāsravayā*, Canto, XV, 120-121; It has been mentioned in the *Kīrtikamudī*, *Mahārāja Parājaya* and *Hammīra-madu-mardana*, *PIHC*, (Calcutta), 1939, p. 479.

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32. *Prabandhacintāmaṇi*, p. 79; *Rās Mālā*, I, 104.
33. *Rājatarāṅgiṇī*, VII, 1940.
34. *Ibid.*, IV, 191; V, 84-121
35. *EI*, I, pp. 122 ff; II, pp. 438 ff; XVIII, pp. 213 ff; XIX pp. 198 ff; pp. 298 ff; XXI, pp. 132 ff; pp. 150 ff; pp. 164. ff; pp. 198 ff; pp. 298 ff; XXVI, pp. 261 ff; XXVII pp. 283 ff.
IA, XVII, pp. 350 ff; XXXVII, pp. 132 ff.
36. *EI*, XIII, pp. 283-295.
37. *Ibid.*, II, p. 358.
38. *IA*, XVIII, p. 213.
39. *EI*, XIX, pp. 298-299.
40. *Abhidhānaratnamālā*, vv. 684-85; cf, *Vaijayantī*, pp. 154-55, II, 16-18; 40-42.
41. *Ibid*, V. 685, *Vaijayantī*; pp. 155. 1.42; (water was also raised by baskets tied by ropes to one end of a long wooden pole. Another method was by large leather bucket, tied to a couple of ropes mounted on a wooden pulley and drawn by the bullock).
42. *R̥gveda*, VIII, 6.9.12; *Vedic Index*, I, 39.
43. Muir, *Sanskrit Text*, V, 465-66.
44. Cf. A. K. Majumder. *Economic Background of Epic Society*, p. 136.
45. *Deśināmamālā*, I. 63, 87; IV, 17, 44; VII, 36. *Kūpatulā*:
46. *Abhidhānaratnamālā*, V, 685; *Vaijayantī*, p. 155.1.42.
47. Cf. L. Gopal, *Economic Life of Northern India*, Varanasi, 1965, 290. *Araghaṭṭaka* is the name of wheel for raising water from a well (*Abhidhānatnamālā*, V. 685)
48. Medhātithi on Manu, XI, 62.
49. *Ibid.*, XI, 162.
50. *Samarāṅgaṇasūtradhāra*, I, pp. 178-79, vv. 109 - 114.
51. *Ibid.*, p. 175, VV. 75-76, p. 175, for a device to convey water into a field and also to pour it out from it.
52. In Buddhist Literature (*Jātaka*, I, 199 ff; 337) there are numerous references to the digging of canals, tanks etc., by joint efforts as well as by the co-operation of the villagers. The Great Epic (*Śānti Parva*, 65. 19) informs us that tribal races were encouraged to dig wells for public use. The author of the *Arthaśāstra* lays down certain rules about the subject. He states that persons refusing to take part in any joint irrigation work (*Sambhuya-Sētubandha*) should be punished by being charged with the cost of labourers and bullocks employed on that account, and deprived of their share of benefit of the work.
53. *Mahābhāṣya*, 1.11.
54. *Arthaśāstra*, III, IX, p. 195.
55. *Ibid.*

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56. *Ibid.*
57. *Arthaśāstra*, III, IX, p. 196.
58. *Ibid.*
59. *Manu*, IX, 279; *Yājñavalkya*, 11.278; Kauṭilya holds similar view. He states 'when a person, breaks the dam of a tank full of water, he shall be drowned in the very tank; of a tank without water, he shall be punished with the highest amercement; and of a tank which is in ruins owing to neglect, he shall be punished with the middlemost amercement, *Arthaśāstra* IV, 11.
60. *Manu*, IX, 281; *Viṣṇu*, I, 11.8;
61. *Manu*, IX, 274.
62. *Viṣṇu*, V. 15.
63. *Bṛhaspati*, XXIII.5.
64. *Mahābhārata* (*Śānti Parva*), 120.8.
65. *Kaus*, 5.40.1.10.
66. R. C. Majumdar, *History of Bengal*, Dacca, 1943, Vol I, pp 276 ff. *EI*, XXII, pp. 150 ff.
67. *Arthaśāstra*, II. 6.
68. *Arthaśāstra*, II, 24; a Superintendent of water-house (*Pāniyaghārika*) and Superintendent of works (*Karmāntika*), Luder's list, Nos: 1270, 1186 : cf *IA*, XIV, p. 331; These designations appear to have some connection with the construction of irrigation works.
69. *Ibid.*, III, 9. p. 194.
70. *Ibid.*, II. 24, p. 131.
71. *Ibid.*
72. *Arthaśāstra*, III, 9, pp. 195-96.
73. *Arthaśāstra*, II, 24; *IBORS*, XII, p. 139; Bhaṭṭasvāmin believed that the king was the owner of all land and water.
74. *Manu*, IX, 44.
75. Kane, V. V., *History of Dharmaśāstras*, Vol II, Part II, Chapter XXV, pp. 865 ff.
76. cf. *Agnipurāṇa*, CCL VII, 8.
77. Medhātithi on *Manu*, I, 21.

The Greek Script as A Medium of Expression in The Indian Borderlands

SUCHANDRA GHOSH

A perusal of the various scripts used for writing in early India shows that apart from the two major scripts, Brāhmī and Kharoshṭī, Greek and Aramaic were also used as a medium of expression in certain select localities. The present paper is an attempt to trace the presence of Greek script in the Indian borderlands in the different periods of history. By Indian borderlands, the area of modern Afghanistan and the North western part of the Indian subcontinent is usually meant. The north western part of the Indian subcontinent mainly embraced the territories of Gandhāra, Uḍḍiyāna (Swat), Kāśmīra, Sindhu-Sauvira and also the area in between them.

We have no idea of the exact date of the penetration of Greek language in the Indo-Iranian borderlands. But we can perhaps be certain that by the time of Pāṇini, who was definitely pre-Mauryan, Greek script was fairly known in the north western part of the subcontinent. In his *Aṣṭādhyāyī*, Pāṇini¹ makes a reference to the Yavanas in the form of *Yavanāni*. The term *Yavanāni*, according to Kātyāyana (4th century BCE)², means the script of the Yavanas. The presence of the Greek script obviously implies the presence of the Greek language in the region concerned. This general spread and use of Greek script was possible due to the settlement of a Greek speaking population in certain areas in the pre Alexandrian period. In fact we have evidence of a flourishing Greek settlement at Nysa between the Cophen (Kabul) and the Indus before Alexander's invasion.³

Excavations at Kandahar have revealed that the Hellenistic period spanned between 330 BCE to at least the later second century BCE. Interestingly one structure decorated with wall paintings give us the only stratified Greek inscription to be discovered at the site⁴. It is an inscribed statue base of alabaster, consisting of at least two elegiac couplets and as forming a metrical dedication of a statue group within a temenos. It refers to a son of Aristonax. Aristonax is a pan Greek name. The well curved surviving letters leave little room for doubting the attempt dating the inscription to the earlier part of the 3rd century BCE. This inscription can be compared to two inscriptions from Ai Khanum, one, the dedication to Hermes and Heracles found in the gymnasium and the other is the famous Delphic maxims found inside a funerary monument. According to Fraser, the tenor of the inscription at the temenos

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at Kandahar strongly suggest that it was sacred to a Greek deity. The city was inhabited by the Greeks during the 1st half of the 3rd. century BCE but of course the city was not entirely populated by them. The citadel mound could have served as acropolis. This Greek character of the city having a sizeable Greek population is represented by the fact that Asokan edicts in Aramaic and Greek have been found a few miles west of present Kandahar in South-eastern Afghanistan.⁵ Palaeographically the Greek letters used here can be dated to 3rd century BCE. According to Prof. L. Robert, the Greek inscription could be among the best works in Greek stone epigraphs of 3rd century BCE. In his opinion 'the vocabulary stems from the best literary tradition and includes a number of technical terms borrowed from the contemporary political and philosophical language.' Prof. Robert's observation is reflected in the use of the term *Eusebia* for Dhamma and the use of the word 'didaskalos' in the sense of a teacher⁶. The similarity between the contents of the Greek and Aramaic inscriptions suggest that they may be treated as two versions of one and the same edict. The impressive Greek population of Kandahar made it an absolute necessity for Aśoka to issue Greek edict along with its Aramaic version for the local people. Aśoka also issued another Greek edict in Kandahar which is written in correct and fluent Greek. It is important to note that the Greek edicts were not direct translation of Aśoka's Prākṛit edicts but redrafting of the Prākṛit edicts in very current and fluent Greek. A thorough study of the inscriptions show that the translators took recourse to both translation and transliteration as and when necessary, e.g., the Greek term *Basileos* is used in place of King whereas in place of *Piyadussi* we have *Piodosses*. The translators were profoundly erudite and used Greek philosophical terms in their translations. The lettering of the inscription follows the same evolution as that of the characters in current use in the Mediterranean⁷. Again a very crucial expression 'keeping in mind the king's interest' in Kandahar record means to have the King's interest in mind. Though this is not an exact translation of the Prākṛit term *Diḍhabhatitā* (firm devotion) of Rock Edict XIII, this expression in Greek effectively brings out the purport of the term *diḍhabhatitā*, not explained in the Prākṛit edict.⁸ These demonstrate the erudition of the translators and their intimate knowledge not only of the Greek script but of the Greek language as well. Thus even while within the Mauryan empire the Greek character of Kandahar remained unfazed, thus compelling Asoka to issue edicts in Greek and perhaps identifying it as a *yona* (yavana) province. After the Mauryan rule, the Bactrian Greeks, Scytho-Parthians and Indo-Parthians continued to rule in Kandahar. Kandahar's potential identificaiton with a Hellenistic city remained undisturbed and this finds its manifestation in the

writings of Isidore when he describes Alexandropolis, the metropolis of Arachosia as 'Greek'. According to him the Parthians call the region of Arachosia as 'White India'. The Greek cultural milieu of the Arachosian region is thus echoed also in the Stathmoi Parthikoi.⁹ Recently another inscription written in pure Greek has been found from Kandahar. This inscription has been published by Paul Bernard.

At Takhtisangin (Uzbekistan) too, Greek script and language were perhaps in vogue. This is testified by an inscription of 2nd century BCE written in the Greek script and language.¹⁰ The inscription was donated by an Iranian in honour of the God Oxus. It read as 'Atrosokes dedicated his votive present to Oxus'. Interestingly, the donor was an Iranian, dedicating his votive present to an Iranian deity, but doing so in the Greek script and language. This single inscription clearly attests to the spread of the Greek script and language among the Bactrian aristocracy and priesthood.

Simple names inscribed in vases and elaborate inscriptions cut in stone, discovered at Ai Khanum in Northern Afghanistan, amply prove that the Greek settlers wanted to preserve their ancestral language and script. The simple administrative formulae,¹¹ dedications,¹² funeral epitaphs, etc. do not contain the slightest hint of barbarization. The language of the settlers was by no means a 'withered bough but rather a flourishing branch constantly irrigated by the sap of close contacts with the mother tongue.'¹³ These contacts were enriched by the constant circulation of ideas and literary texts. The use of the Greek script and language on the ostraca of Iranian treasurers eg., Artanes, Barzandes, Oxebaokos and Oxybazos, datable to 2nd century BCE, prove that Iranians working as officers in the Graeco-Bactrian administration were well acquainted with the Greek script and language. Recent finds of inscribed potsherds at Birkot and Udegram (Swat, Pakistan) prove that the Greek language and script were still being used there in the 2nd and 1st centuries BCE. The Birkot inscription consists of two names which may be restored as (1) To Euthydemos (2) Amyntas.

With the arrival of the Greeks in Bactria and India in the political arena of the region concerned, the Greek script and language naturally gained further momentum. Numismatic issues of this period are replete with the usage of Greek script and language. The early Greek rulers issued coins in Greek script and Greek language whereas the Indo-Greeks struck coins retaining the Greek legend on the obverse and adding Prākṛit legend with Kharoshṭī script on the reverse.¹⁴ These bilingual issues were obviously meant for circulation in the area to the south east of Hindukush and north western India where Kharoshṭī was in use.

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It appears that the use of the Greek script and language survived the fall of the Indo-Greeks. The Scytho-Parthians who followed the Indo-Greeks in the Indian borderlands were culturally Greek and so was well disposed towards the Greek community in their own territory. They continued the use of Greek script in their monetary issues.¹⁵ Again from the writings of Appolonias of Tyana (middle of the 1st century. CE) we learn that King Phraotes, of Taxila, not only spoke Greek with courtesy but with all the respect and deference considered due to a philosophical sage.¹⁶ Thus Greek was spoken and understood by at least a section of a population in this period.

The Śakas were routed by the Kushāṇas, whose core area, was in Bactria and from there they expanded into northern and northwestern parts of the subcontinent, finally extending its sway over the Ganga valley. Naturally the Greek scribes, masons and artisans were now working for the new ruling class. An inscription found in the ruins of the Kushāṇa dynastic sanctuary, of the reign of Kanishka at Surkh-Kotal in the area of Baglan in Afghanistan mentioned a Greek architect called Palamedes. The Greek inscription has been read as 'Dia Palamedous', meaning through the agency of Palamedes.¹⁷ That Palamedes was a Hellenic name is interestingly corroborated by the Greek mythology, where we find that a hero of the Trojan war (1183 BCE) called Palamedes, introduced the letters *th*, *x*, *ph* and *kh* to the Greek alphabet.

Our understanding of the use of the Greek script and language in the Kushāṇa realm has considerably increased in recent times with the discovery of the longest Kushāṇa inscription from Rabatak in Afghanistan. The inscription was first edited by Nicholas Sims-Williams and Joe Cribb but a fresh reading has been given by B. N. Mukherjee.¹⁸ The inscription is in Greek script and Bactrian language. Bactrian is a middle Iranian language in which loan words from Iranian and Indian source are traceable. In this inscription, as suggested by B. N. Mukherjee, Kanishka claims to have actually discontinued the official use of Greek and replaced it for the purpose by Bactrian, (*atiya i ionango oaso ozousto dudeio arya ostado*). Ionango stood for Greek while Arya means Bactrian. Sims-Williams translated the same as 'he issued a Greek edict and then he put it into Aryan'. No Greek version of the same inscription have been found. Moreover the fact that Kanishka discontinued the official use of Greek language is admirably supported by numismatic evidence. The coins of Vima Kadphises bore the Greek legend 'Basileus Ooemo Kadphises' while barring a few early issues, Kanishka struck coins with Bactrian legend 'Shaonanoshao Kanishki Koshano'.¹⁹ The script however was Greek. Thus, it appears that, the inscription of Palamedes was one of the rare Kushāṇa inscriptions written in Greek language.

The Greek script survived the Greek language as a vehicle of other languages in the Indian borderlands. The inscriptions and coins of Kushāṇa and post Kushana period show that the script was employed mainly for writing Bactrian. Even the Epthalite Huns used the Greek script on their coins. The Huns used the Greek script particularly in their short inscriptions. It may be mentioned that Hsuan Tsang²⁰ referred to Tokharian (Tu-huo-lo) language in the second quarter of the 7th century AD having twenty five letters (ie. 24 basic Greek letter and Doric sigma), Doric sigma was introduced in the script of the Indian borderlands. It will not be illogical to mention here that even in the coins of the Kshatrapas of Western India we have traces of Greek legends. Gradually it became corrupt and fragmentary. This was possibly due to the fact that the Cambay region had linkages with the north western part of India and Periplus mentions that coins of Apollodotus and Menander were in circulation in Barygaza.²¹

The quality of writing the Greek script however deteriorated in the absence of good Greek die cutters and scribe. Some changes in the formation of letters can also be perceived. The characters in the Asokan edicts and numerous early Bactrian Greek coins were well formed. But these are written with a slant in several inscriptions at Ai Khanum of the Hellenistic age. Lunate sigma is noticeable. A square form of omicron developed from round omicron and on some Kushana coins upsilon underwent some change. Squarish *rho*, *omega* and *phi* are noticeable on different Scytho-Parthian coins. Some misformed letters are perceived on the coins of the Indo-Greeks, particularly of the later phase of their rule. Their numbers increase on the Scytho-Parthian coinage. However, on the early pieces of the reformed coinage of the Kushanas the letters are tolerably clear. Gradually the letters become cursive. The use of Doric sigma and the employment of upsilon, omicron, etc, for conveying sound other than the primary one are very much seen in the Kushana records. The joining of cursive letters with connecting lines occur occasionally in Kushana period but frequently in the post Kushana phase.

From the above survey we may perhaps conclude that the dominance of Greek script in a particular locality for such a long period was the result of intense and regular human interaction of the region with the Hellenistic world. A profound impact of this is seen in the spread of the Greek script from Afghanistan to North Western parts of India. With the passage of time as these interactions waned, naturally the importance of the script abated.

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Obituary

Dilipbabu - As I Saw Him

[Prof. Dilip Kumar Biswas, one of the most notable alumni of the Department of Ancient Indian History and Culture, University of Calcutta, passed away while the present volume was taking shape. He was associated with the Department as an honorary lecturer during 1960–1984. — Editor]

I was a student of Prof. Dilip Kumar Biswas when Presidency College was going through a tumultuous period in mid-60s. It was the best of times, it was the worst of times. Emotions and tempers ran high. The college was closed for a few months. Only solace was that our academic pursuit, inspite of occasional interruptions, was carried through. This was made possible because of our dedicated and illustrious teachers, of whom Dilip Babu stands prominent.

Dilip Babu taught us history of ancient India in Room No. 17, a dingy class room on the first floor of the main building but illuminated by the presence of teachers like Amales Tripathi, Ashin Ranjan Das Gupta and Ajoy Banerjee. I still remember Dilip Babu's erudite lectures on Indus Valley, early and later Vedic age, Rise of Magadha etc. He explained the intricacies of the Buddhist concept of transmigration of soul with the help of two candles. It was more an amusement to us than one of academic interest. During the turmoil our Part-I examination was so near. Special classes were arranged somewhere in Lord Sinha Road. Dilip Babu dictated us two notes - Chandragupta II and Tripartite struggle. I still possess them in my 'home archive'.

As a student we were rather amazed by the span and depth of Dilip Babu's knowledge which ranged from history to archaeology, Indian to European literature and different branches of Indology. He was a connoisseur of Rabindra Sangeet and Indian classical music. At his ripe age he developed keen interest in social Anthropology. While some of our teachers got nervous when they confronted sharp queries from ever-inquisitive Gautam Bhadra, my classmate, Dilip Babu kept him cautious. But his distancing himself from Ramsaran Sharma-Romila Thapar approach to ancient Indian history sometimes disappointed us. He was so firm in his conviction that even a few years back he told me that they were interpreting the same source in a different way.

Dilip Babu was actively associated with Bangiya Sahitya Parishad, Asiatic Society and Sadharan Brahma Samaj. He was shy enough to project himself to the media. A pleasing personality, his company always made me enlightened

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through his thorough exposition of different debates of history. For last five or six years I had the fortune of coming close to Dilip Babu when I acted as a liaison between him and Prof. Arun Kumar Dasgupta, my teacher at Calcutta University, one residing in far north, the other in far south of the city. I carried books and offprints of Arun Babu to Dilip Babu and vice versa. Both were critically ill, Dilip Babu with his fractured leg and Arun Babu with his acute eye problem. It was sometime in last September that I met Dilip Babu at his Paikpara residence. It was a rainy afternoon. He was in a half lying posture on his single cot. His speech was indistinct. To my surprise I found him rendering a Bengali translation of an Annadasankar poem from its original Oriya version. He just finished the proof-reading of a collection of folk songs.

This was the last time I saw my teacher, a Vedic sage personified.

Anjan Goswami

Book Review

‘Buddhist Divinities’ — Dr. Puspa Niyogi

(New Delhi : Munshiram Manoharlal Publishers Pvt. Ltd. 2001)

xiv, 198p., 92 B/ W Illustrations

‘Buddhist Divinities’ by Dr. Puspa Niyogi is an invaluable addition to a scholar’s domain of knowledge in the history of Buddhism, especially that of art and religion. The author has adeptly handled data from a wide variety of sources, including edited texts, translations, commentaries, books and journals, catalogues and reports and other such publications devoted to Buddhism and allied subjects. The volume has been further enriched by the inclusion of a number of vivid photographs of deities preserved in the different museums in India and abroad, some of which have been personally visited by her.

Chapter I entitled ‘Scholars and their works’ provides the reader with a remarkable insight into the works of many renowned scholars of Buddhist religion, philosophy and literature. Most of them had pursued their intellectual activities in the monastic universities of Bengal and Bihar during the rule of the Buddhist Pāla kings in the 10th and 11th centuries or perhaps a little earlier. The author contends that due to their learning and character they have been elevated to the position of deified historical personages.

Chapters II and III contain a detailed review of the images of Male and Female Buddhist deities respectively, which have been discovered from various parts of eastern India and Bangladesh. In the process the author has ably recounted their characteristics, attributes and other specifications as evident from the available samples, comparing them with such textual accounts as provided by the *Mañjuśrīmūlakalpa*, *Guhyasamāja tantra*, *Sādhnamāla* and the *Niṣpannayogāvalī* of Mahāpaṇḍa Abhayākara Gupta. Apart from clarifying the position of the deities in the Buddhist pantheon, the incorporation of their iconographical features, provides the reader with a broad and general idea of the peculiarities of Buddhism which were developing in some of its later phases.

In Chapter II entitled ‘Male Divinities’ special reference is made to Ādi-Buddha, Dhyaṇī-Buddhas, Bodhisattvas and their multiple forms specially Avalokiteśvara and Mañjuśrī. Female Divinities, such as Tārā, Prajñāpāramitā, and Cuṇḍa together with a detailed analysis of their individual characteristics

Book Review

feature in Chapter III. This acquaints the scholar on Buddhism with the fact of how a comparatively simple religious doctrine developed gradually into a complex one under the influence of Mahāyāna and Vajrayāna with an elaborate pantheon, which has been systematically classified.

Interesting, from the point of view of Buddhistic studies are the four appendices attached at the end of a well informed and interesting study. Appendix I enlists the Indian Universities and the respective scholars attached to them; Appendix II highlights the attributes of Buddhist Gods as revealed in their diagram representations; likewise Appendix III enumerates the characteristics of Buddhist Goddesses and Appendix IV gives the meaning and explanations of Sanskrit words.

The author in her characteristic lucid style has highlighted an absorbing and interesting aspect in the process of development of Buddhist art and religious doctrine. It is hoped that the book will prove to be an indispensable aid to scholars on Buddhistic studies and allied subjects.

Rita Chaudhuri

Activities of the Department — 2002-2005

During the period 2002-2005, the faculty members and students of Ancient Indian History and Culture, University of Calcutta were fortunate to have amongst them distinguished speakers who enlightened them on various aspects of India's early history.

In the special lecture series, the R. P. Nopany lecture for 2002, was delivered on the 10th of September 2002 by Prof. Dilip Kumar Ganguly of the Department of Ancient Indian History, Culture and Archaeology, Visva-Bharati, Santiniketan. It was delivered in two parts, the topic being *The Gurjara-Pratiharas of Jalor-Ujjayini - A dynastic history*.

On the 9th of December 2002, the teachers, students, guests and visitors had an entertaining, interactive session with Dr. Dipak Kumar Barapanda, who delivered an interesting lecture on *Paṭachitras and Paṭuas of Bengal: an analytical study*. He was accompanied by artist Ananda Chitrakar Pulin who displayed Paṭa chitras and sang the accompanying patua songs.

On the 30th of January 2003, Dr. Somnath Ghosh, Prof. and Head of the Department of Chemistry, Hoogly Mohsin Government College enlightened us on *Alchemy: East and West*. Since recently the department has introduced a special group on the history of science and technology. The lecture provided an interesting insight on one of its many aspects.

Dr. Amal Ray, superintendent, Directorate of State Archaeology, West Bengal, delivered an illuminating lecture on a recently excavated site in Malada on the 27th of May, 2003. His discourse on *Jagjivanpur: a newly discovered Buddhist site*, was well attended and greatly appreciated.

On the 23rd of September 2003, the department welcomed Dr. Nicholas Rhodes, secretary general, Oriental Numismatics Society (London) and Treasurer, Royal Numismatic Society (London). The topic of his lecture was *Coins of Samatata*, which was greatly appreciated by teachers, students, and guests alike.

Another distinguished scholar and visitor to our department was Dr. Osmund Bopearachchi, Director of Research, C.N.R.S. Paris, who delivered an informative lecture on *Some Observations on Indo-Greek coins* on the 6th of January 2004.

On the 3rd of March 2004, Dr. Pradip Majumdar, Guest lecturer, Department of Ancient Indian History and Culture, Calcutta University, dealt with one of the countless interesting aspects of science in Ancient India in

Activities of the Department — 2002-2005

his discourse on *The Development of Mathematics in Ancient India*. On the 14th of December 2004, the department once again played host to Prof. Osmund Bopearachchi. His illustrated lecture on *New Archaeological and Numismatic discoveries from Central Asia and India: Pre-Kushana chronology* captivated the audience.

Swami Nirlepananda lecture for 2002 was delivered by Prof. Haraprasad Ray of Asiatic Society, Calcutta. It was delivered on two days, 18th and 28th of January 2005. The topics were 1) New Archaeological Discoveries in China and their bearing on Indian History, and 2) Southern Silk Route of China through North East India and its Economic Dimensions. These were highly informative and well appreciated by the audience.

The year 2005 also saw the eventful visit of delegates from Ankara University (Turkey) on the 11th of February 2005. The team included members of the faculty, students and delegates from ICCR, New Delhi, Navin Nigam and Rattan al. There was interchange of information regarding the activities of the respective departments, including the Departments of Archaeology and Museology of our University. Thereafter, the students entertained each other with songs and dances.

On the 22nd of March 2005, we were privileged to have amongst us Prof. Dr. Ian W. Mabbett of the School of Historical Studies, Monash University, Australia. His lecture on *Some aspects of Indo-Cambodian relationship in early times* was well attended.

The 22nd of August 2005 saw the inaugural programme of the permanent display of photographs, presented by Dr. Bimal Bandyopadhyay, Superintending Archaeologist, ASI (Kolkata circle) to the Department of Ancient Indian History and Culture, Calcutta University.

On the 6th of September 2005, Dr. Ashim Kumar Chatterjee, former Reader and Head of the Department of Ancient Indian History and Culture, Calcutta University, delivered a lecture on *Devadatta - the Rebel Buddhist*.

Rita Chaudhuri

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Plate – I

Ms. Painting of Ashtasahasrikā Prajñāpāramitā preserved in the Asiatic Society, Kolkata.



Plate – II
Standing Viṣṇu in Stone



Plate – III
Seated Gaṇeśa in metal



Plate – IV
Seated Gaṇeśa in metal



Plate – V
Standing Viṣṇu in metal



Plate – VI
Standing Viṣṇu in metal



Plate – VII
Mahiṣamardini in metal



Plate – VIII
Standing Sūrya in metal



Plate – IX
Standing Tārā in metal



Plate – X
Seated Tārā in metal



Plate – XI
Seated Tārā in metal



Plate – XII
Seated Tārā in metal



Plate – XIII
Standing female divinity in metal



Plate – XIV
Standing female divinity in metal



Plate – XV
Image of Sadāśiva in gold



Plate – XVI
Rādhikā



Plate – XVII
Mohanpur inscription